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TRINITY RIVER BRIDGES PROJECT

Environmental Assessment/Draft Environmental Impact Report

Volume 5

Supplement to Volume 4

May 11, 2003

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Environmental Assessment/Draft Environmental Impact Report

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Project Applicant and Federal Lead Agency For NEPA
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Applicant's Consultant:
North State Resources, Inc.
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May 11, 2003

Explanatory Statement

This document supplements the Appendices (Volume 4) to the Trinity River Bridges Environmental Assessment/Draft EIR submitted to the State Clearinghouse on May 5, 2003 (SCH #20022042074). The supplemental materials are specific to Appendices D, F, H and N, and includes the following additional materials:

Appendix D	Replacement in full
Appendix F	Inclusion of supplemental communication
Appendix H	Revision of Figures 1 and 2 for legibility
	Inclusion of supplemental communication
	Inclusion of Appendix A supplements (Data Forms and Soil Map Unit Figure)
	Inclusion of Appendix B supplements (Site Photographs)
Appendix N	Inclusion of e-mail
	Inclusion of location map
	Inclusion of data sheets
	Inclusion of CNDDB map

REPLACEMENT OF APPENDIX D

Mitigation Monitoring and Reporting Plan

TRINITY RIVER BRIDGES PROJECT

Draft Mitigation Monitoring and Reporting Program

May 11, 2003

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Draft Mitigation Monitoring and Reporting Program

INTRODUCTION

This document comprises the Mitigation Monitoring and Reporting Program (MMRP) for the Trinity River Bridges Project. The purpose of providing the MMRP as a stand-alone document in the Draft EA/EIR is to make clear to the reader the mitigati on responsibilities of the Bureau of Reclamation (BOR), Bureau of Land Management (BLM), and Trinity County in implementing the Trinity River Bridges Project. The mitigation measures listed herein are requ ired by law or regulation and will be adopted by the Trinity County Board of Supervisors as part of the overall project approval.

Mitigation is defined by both the California Enviro nmental Quality Act (CEQA) – Section 15370 and the National Environmental Policy Act (NEPA) as a measure which:

- Avoids the impact altogether by not taking a certain action or parts of an action
- Minimizes impacts by limiting the degree or ma gnitude of the action and its implementation
- Rectifies the impact by repairing, rehabilita ting, or restoring the impacted environment
- Reduces or eliminates the impact over time by pr eservation and maintenance operations during the life of the project
- Compensates for the impacts by replacing or pr oviding substitute resources or environments

Mitigation measures provided in this MMRP have been identified in Chapter 3, Affected Environment and Environmental Consequences of the Draft EA/EIR , as feasible and effective in mitigating project-related environmental impacts.

This MMRP includes the discussions on the following: legal requirements, intent of the MMRP, development and approval process for the MMRP, the authorities and responsibilities associated with the implementation of the MMRP, a description of th e mitigation summary table, and resolution of noncompliance complaints.

LEGAL REQUIREMENTS INTENT OF THE MITIGATION MONITORING AND REPORTING PROGRAM

The legal basis for the development and implementati on of the MMRP lies within both CEQA (including the California Public Resources Code) and NEPA. S ections 21002 and 21002.1 of the California Public Resources Code state:

- Public agencies are not to approve projects as propo sed if there are feasible alternatives or feasible mitigation measures available that would substan tially lessen the significant environmental effects of such projects; and
- Each public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so.
- Section 21081.6 of the California Public Resources Code further requires that: the public agency shall adopt a reporting or monitoring program for th e changes made to the project or conditions of

project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation.

- The monitoring program must be adopted when a public agency makes its findings under CEQA so that the program can be made a condition of project approval in order to mitigate significant effects on the environment. The program must be designed to ensure compliance with mitigation measures during project implementation to mitigate or avoid significant environmental effects.

NEPA 40 CFR Sections 1502.14f requires:

- Agencies shall include appropriate mitigation measures not already included in the proposed action or alternatives

INTENT OF THE MITIGATION MONITORING AND REPORTING PROGRAM

The MMRP is intended to satisfy the requirements of CEQA as they relate to the Trinity River Bridges EA/EIR. It is anticipated to be used by BOR, BLM, and County staff, participating agencies, project contractors, and mitigation monitoring personnel during implementation of the project.

The primary objective of the MMRP is to ensure the effective implementation and enforcement of adopted mitigation measures and permit conditions. The MMRP will provide for monitoring of construction activities as needed, on-site identification and resolution of environmental problems, and proper reporting to lead agency staff.

DEVELOPMENT AND APPROVAL PROCESS

The timing elements for implementing mitigation measures and the definition of the approval process has been provided in detail through this MMRP to assist staff from the BOR, BLM, and County by providing the most usable monitoring document possible.

AUTHORITIES AND RESPONSIBILITIES

The BOR, functioning as the Trinity River Restoration Program (TRRP), will have the primary responsibility for the execution and proper implementation of the MRRP. BLM and Trinity County may provide the BOR with support, as warranted. The BOR will be responsible for the following activities:

- Coordination of monitoring activities
- Management of the preparation and filing of monitoring compliance reports
- Maintenance of records concerning the status of all approved mitigation measures

SUMMARY OF MONITORING REQUIREMENTS

Table 1, which follows, summarizes the mitigation measures and associated monitoring requirements proposed for the Trinity River Bridges Project. These mitigation measures are presented in the same form as originally prescribed in the Draft EA/EIR - Chapter 3.0, Affected Environment and Environmental Consequences. The mitigation measures are organized by environmental issue area (i.e., Land Use, Water Quality, etc.), then by project site (i.e., Salt Flat, Bucktail, Poker Bar, and Biggers Road), and

finally by proposed action and associated project build alternatives. **Table 1** is comprised of the following four columns:

- **Mitigation Measure:** Lists the mitigation measures identified for each significant impact discussed in the Trinity River Bridges EA/EIR. The same mitigation numbering system used in the EA/EIR is carried forward in this MMRP.
- **Timing/Implementation:** Indicates at what point in time or project phase the mitigation measure will need to be implemented.
- **Responsible Parties (tasks):** Documents which agency or entity is responsible for implementing a mitigation measures and what, if any, coordination is required (e.g., approval from Caltrans). If more than one party has responsibility under a given mitigation measure, the tasks of each individual party is identified parenthetically (e.g., "implementation" or "monitoring").
- **Verification:** Provides spaces to be initialed and dated by the individual responsible for verifying compliance with each specific mitigation measure.

RESOLUTION OF NONCOMPLIANCE COMPLAINTS

Any person or agency may file a complaint that states noncompliance with the mitigation measures that were adopted as part of the approval process for the Trinity River Bridges Project. The complaint shall be directed to the BOR, via the TRRP office (P.O. Box 1300, 1313 South Main Street, Weaverville, CA 96093), in written form providing detailed information on the purported violation. The BOR shall conduct an investigation and determine the validity of the complaint. If noncompliance with a mitigation measure is verified, the BOR shall take the necessary action(s) to remedy the violation. The complaint shall receive written confirmation indicating the results of the investigation or the final corrective action that was implemented to response to the specific noncompliance issue.

TABLE 1
SUMMARY OF MITIGATION MONITORING REQUIREMENTS

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
3.2 LAND USE			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-1a: The BOR shall clearly identify all private wells and associated service lines, construction staging areas and potential access routes on the final design drawings.	Preconstruction	BOR (final design)	
SF-1b: Prior to the start of construction, the BOR shall meet with owners of the private well facilities (i.e., Bonk and Heinsohn) to ensure and coordinate potential well and/or service line relocation efforts. The coordination should include, at a minimum, agreement on the following: new site to relocate affected facility; schedule to implement the relocation effort; and identification of any interim water supply measures (i.e., truck in water). The BOR shall be responsible for all costs associated with completing these efforts.	Preconstruction	BOR (implementation)	
SF-1c: Construction bid documents will require that access be maintained, though temporary closures of short duration will occur, throughout the construction period for all private residences adjacent to the project.	Preconstruction	BOR (bid doc preparation)	
SF-1d: During the construction phase of the project, the BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-1a: The BOR shall clearly identify all construction staging areas and potential access routes on the final	Preconstruction	BOR (final design)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
design drawings.			
BT-1b: Construction bid documents will require that access be maintained, though temporary closures of short duration will occur, throughout the construction period for all private residences adjacent to the project.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BT-1c: During the construction phase of the project, the BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: The BOR shall clearly identify all construction staging areas and potential access routes on the final design drawings.	Preconstruction	BOR (final design)	
PB-1b: Construction bid documents will require that access be maintained, though temporary closures of short duration will occur, throughout the construction period for all private residences adjacent to the project.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
PB-1c: During the construction phase of the project, the BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action			
BR-1a: The BOR shall clearly identify all construction staging areas and potential access routes on the final design drawings.	Preconstruction	BOR (final design)	
BR-1b: Construction bid documents will require that access be maintained, though temporary closures of short duration will occur, throughout the construction period for all private residences adjacent to the project.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
BR-1c: During the construction phase of the project, the BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	
Alternative 1			
BR-1a: The BOR shall clearly identify all construction staging areas and potential access routes on the final design drawings.	Preconstruction	BOR (final design)	
BR-1b: Construction bid documents will require that a minimum of one lane of traffic be maintained through the construction site at all times. If not, then the BOR and their contractor shall contact the affected property owners to coordinate feasible and mutually convenient dates/times during which construction could take place. This will ensure that the impact to property access is minimized to the extent possible and that the property owners have an opportunity to discuss any concerns. Coordination should occur a minimum of one-month prior to starting construction. Advance notification in the form of roadside signs shall be provided by the BOR and/or their contractor that inform the driving public that a segment of Steel Bridge Road will be temporary closed to traffic with information such as the anticipated time frame/duration of closure, and also the times of day of closure, if only for certain hours. If feasible, the construction work should be done during off-peak. The roadside signs should be placed at the intersection of State Route 299 and Steel Bridge Road.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BR-1c: During the construction phase of the project, the BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	
3.3 GEOLOGY, FLUVIAL GEOMORPHOLOGY, AND SOILS			
Salt Flat			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Proposed Action, Alternative 1, Alternative 2			
SF-1a: Prior to final bridge design, BOR engineers shall identify potential engineering solutions to address construction on unstable materials. This may include one or more of the following, as appropriate: ▪ Remove unstable fill before placement of widened bridge foundations and fill embankments. ▪ Extend foundations for bridge support columns through unstable materials into suitable dense materials (i.e., consolidated material, bedrock). ▪ Use rock bolting.	Preconstruction	BOR (final design)	
SF-1b: Final design of the bridge shall meet all Caltrans and AASHTO standard seismic construction and design code requirements to prevent collapse from and minimize structural damage from ground shaking and liquefaction.	Preconstruction	BOR (final design)	
SF-2a: The BOR shall implement the following measures throughout construction: ▪ Areas where ground disturbance will need to occur shall be identified in advance of construction and limited to only those areas that have been approved by the BOR. ▪ Confine all construction vehicular traffic to the designated access routes and staging area. ▪ Limit disturbance to the minimum necessary to complete construction activities. ▪ Inform all supervisory construction personnel of environmental concerns, permit conditions, and final rehabilitation specifications.	Construction	Contractor (implementation) BOR (monitoring)	
SF-2b: The Contractor shall prepare an erosion and sedimentation control plan. The following measures shall be used as a guide to develop this plan: ▪ Restore disturbed areas to pre-construction contours to the extent feasible.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
▪ Salvage, store, and use the highest quality soil for revegetation. ▪ Discourage noxious weed competition and control noxious weeds. ▪ Clear steep slopes immediately prior to scheduled construction. ▪ Leave drainage gaps in topsoil and spoil piles to accommodate surface water runoff. ▪ Cease topsoil stripping activities during significantly wet or windy weather. ▪ For areas that require permanent erosion control structures, stepped footings or retaining walls designed to preserve the natural landforms should be used. ▪ Use bales and/or silt fencing as appropriate. ▪ Before seeding disturbed soils, work the topsoil to reduce compaction caused by construction vehicle traffic. ▪ Following completion of each stage of construction, weed-free mulch shall be applied to disturbed areas within 10 days in order to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service during the next 24 hours, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season. ▪ Filter fences and catch basins shall be placed below all construction activities at the edge of the Trinity River and other surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. ▪ Spoil sites shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated to reduce the potential for erosion. ▪ Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated.			
Bucktail			
Proposed Action, Alternative 1			
BT-2a: The BOR shall implement the following measures throughout construction: ▪ Areas where ground disturbance will need to occur shall be identified in advance of construction and limited to only those areas that have been approved by the BOR. ▪ Confine all construction vehicular traffic to the designated access routes and staging area. ▪ Limit disturbance to the minimum necessary to complete construction activities. ▪ Inform all supervisory construction personnel of environmental concerns, permit conditions, and final rehabilitation specifications.	Construction	Contractor (implementation) BOR (monitoring)	
BT-2b: Contractor shall prepare an erosion and sedimentation control plan in accordance with applicable permit requirements. The following measures shall be used as a guide to develop this plan: ▪ Restore disturbed areas to pre-construction contours to the extent feasible; ▪ Salvage, store, and use the highest quality soil for revegetation; ▪ Discourage noxious weed competition and control noxious weeds; ▪ Clear steep slopes immediately prior to	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
scheduled construction; ▪ Leave drainage gaps in topsoil and spoil piles to accommodate surface water runoff; ▪ Cease topsoil stripping activities during significantly wet or windy weather; ▪ For areas that require permanent erosion control structures, stepped footings or retaining walls designed to preserve the natural landforms should be used; ▪ Use bales and/or silt fencing as appropriate; ▪ Before seeding disturbed soils, work the topsoil to reduce compaction caused by construction vehicle traffic; ▪ Following completion of each stage of construction, weed-free mulch shall be applied to disturbed areas within 10 days in order to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service during the next 24 hours, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season. ▪ Filter fences and catch basins shall be placed below all construction activities at the edge of the Trinity River and other surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. ▪ Spoil sites shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated to reduce the potential for erosion. ▪ Sediment control measures shall be in place			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated.			
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: Prior to final bridge design, BOR engineers shall identify potential engineering solutions to address construction on unstable materials. This may include one or more the following, as appropriate: ▪ Remove unstable fill before placement of widened bridge foundations and fill embankments. ▪ Extend foundations for bridge support columns through unstable materials into suitable dense materials (i.e., consolidated material, bedrock). ▪ Use rock bolting.	Preconstruction	BOR (final design)	
PB-1b: Final design of the bridges shall meet all Caltrans and AASHTO standard seismic construction and design code requirements to prevent collapse from and minimize structural damage from ground shaking and liquefaction.	Preconstruction	BOR (final design)	
PB-2a: The BOR shall implement the following measures throughout construction: ▪ Areas where ground disturbance will need to occur shall be identified in advance of construction and limited to only those areas that have been approved by the BOR. ▪ Confine all construction vehicular traffic to the designated access routes and staging area. ▪ Limit disturbance to the minimum necessary to complete construction activities. ▪ Inform all supervisory construction personnel of environmental concerns, permit conditions, and final rehabilitation specifications.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
PB-2b: Contractor shall prepare an erosion and sedimentation control plan in accordance with applicable permit requirements. The following measures shall be used as a guide to develop this plan: ▪ Restore disturbed areas to pre-construction contours to the extent feasible; ▪ Salvage, store, and use the highest quality soil for revegetation; ▪ Discourage noxious weed competition and control noxious weeds; ▪ Clear steep slopes immediately prior to scheduled construction; ▪ Leave drainage gaps in topsoil and spoil piles to accommodate surface water runoff; ▪ Cease topsoil stripping activities during significantly wet or windy weather; ▪ For areas that require permanent erosion control structures, stepped footings or retaining walls designed to preserve the natural landforms should be used; ▪ Use bales and/or silt fencing as appropriate; ▪ Before seeding disturbed soils, work the topsoil to reduce compaction caused by construction vehicle traffic; ▪ Following completion of each stage of construction, weed-free mulch shall be applied to disturbed areas within 10 days in order to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service during the next 24 hours, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season. ▪ Filter fences and catch basins shall be placed below all construction activities at the edge of the Trinity River and other surface water	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. ▪ Spoil sites shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated to reduce the potential for erosion. ▪ Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated.			
Biggers Road			
Proposed Action, Alternative 1			
BR-1a: Prior to final bridge design, BOR engineers shall identify potential engineering solutions to address construction on unstable materials. This may include one or more the following, as appropriate: ▪ Remove unstable fill before placement of widened bridge foundations and fill embankments. ▪ Extend foundations for bridge support columns through unstable materials into suitable dense materials (i.e., consolidated material, bedrock). ▪ Use rock bolting.	Preconstruction	BOR (final design)	
BR-1b: Final design of the bridge shall meet all Caltrans and AASHTO standard seismic construction and design code requirements to prevent collapse from and minimize structural damage from ground shaking and liquefaction.	Preconstruction	BOR (final design)	
BR-2a: The BOR shall implement the following	Construction	Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
measures throughout construction: ▪ Areas where ground disturbance will need to occur shall be identified in advance of construction and limited to only those areas that have been approved by the BOR. ▪ Confine all construction vehicular traffic to the designated access routes and staging area. ▪ Limit disturbance to the minimum necessary to complete construction activities. ▪ Inform all supervisory construction personnel of environmental concerns, permit conditions, and final rehabilitation specifications.		BOR (monitoring)	
BR-2b: Contractor shall prepare an erosion and sedimentation control plan in accordance with applicable permit requirements. The following measures shall be used as a guide to develop this plan: ▪ Restore disturbed areas to pre-construction contours to the extent feasible; ▪ Salvage, store, and use the highest quality soil for revegetation; ▪ Discourage noxious weed competition and control noxious weeds; ▪ Clear steep slopes immediately prior to scheduled construction; ▪ Leave drainage gaps in topsoil and spoil piles to accommodate surface water runoff; ▪ Cease topsoil stripping activities during significantly wet or windy weather; ▪ For areas that require permanent erosion control structures, stepped footings or retaining walls designed to preserve the natural landforms should be used; ▪ Use bales and/or silt fencing as appropriate; ▪ Before seeding disturbed soils, work the topsoil to reduce compaction caused by construction vehicle traffic; ▪ Following completion of each stage of	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
construction, weed-free mulch shall be applied to disturbed areas within 10 days in order to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service during the next 24 hours, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season. ▪ Filter fences and catch basins shall be placed below all construction activities at the edge of the Trinity River and other surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. ▪ Spoil sites shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated to reduce the potential for erosion. ▪ Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated.			
3.4 WATER RESOURCES			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-2a: Any construction activities proposed within the active low-flow channel elevation of the Trinity River (excluding passive vegetation removal activities above ground level) shall be restricted to June 15th to September 15th, except for the first construction	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
season, when in-water work will take place during the fall and winter of 2003-2004 (outside of the June 15 to September 15 dry season in-river construction period).			
SF-2b: Construction equipment and materials shall be stored away from surface water features when not in use.	Construction	Contractor (implementation) BOR (monitoring)	
Bucktail			
No mitigation measures proposed for the Bucktail site since there were no significant impacts.			
Poker Bar			
No mitigation measures proposed for the Poker Bar site since there were no significant impacts.			
Biggers Road			
No mitigation measures proposed for the Biggers Road site since there were no significant impacts.			
3.5 WATER QUALITY			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-1a: Turbidity increases associated with project construction activities shall not exceed the NCRWQCB water quality objectives for turbidity in the Trinity River Basin. The current threshold for turbidity levels in the Trinity River, as listed in the Basin Plan (NCRWQCB 2001), is summarized below. ▪ Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.	Construction	BOR (monitoring)	
SF-1b: To ensure that turbidity levels do not exceed the threshold listed above during in-stream project construction activities; the BOR shall coordinate with the contractor to monitor turbidity levels 50 feet upstream and 300 feet downstream of the point of in-stream construction activities. Sampling procedures	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/implementation	Responsible Party(ies)	Verification (date and initials)
shall be performed in accordance with applicable permit requirements. Grab samples should be taken four times daily, when construction activities potentially have the greatest water quality impact (i.e., placement of gravel for temporary crossing, drilling for bent placement, bridge removal, if applicable). In the event that monitoring data reveal that Basin Plan turbidity objectives are being exceeded, BOR shall modify its construction activities in whatever manner is necessary to reduce turbidity to levels consistent with those objectives.			
SF-1c: Contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) that includes silt fences, sediment filters, dewatering activities, and routine monitoring to verify effectiveness. Proper implementation of erosion and sediment controls and dewatering activities should be adequate to minimize sediment inputs into the Trinity River until vegetation re-growth occurs. All sediment containment devices and erosion control devices will be inspected daily during the construction period to ensure that devices are properly functioning. Excavated and stored materials will be kept in upland sites with erosion control properly installed and maintained. Excavated and stored materials will be staged in stable upland sites. All applicable erosion control standards will be required during stockpiling of materials.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
SF-2a: The BOR shall require that the bridge contractor prepare and implement a spill prevention and containment plan in accordance with applicable federal and state requirements.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
SF-2b: The BOR shall include in the construction contract documents a requirement that any construction equipment that would come in contact with the Trinity River will need to be inspected daily for leaks prior to entering the flowing channel. External oil, grease, and mud will be removed from equipment using steam cleaning. Untreated wash and rinse water must be adequately treated prior to discharge if that is	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
the desired disposal option.			
SF-2c: The BOR shall include in the construction contract documents a requirement that hazardous materials, including fuels, oils, and solvents, not be stored or transferred within 150 feet of the active Trinity River channel. Areas for fuel storage, refueling, and servicing will be located at least 150 feet from the active river channel. In addition, the construction contractor shall be responsible for maintaining spill containment booms onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-1a: Turbidity increases associated with project construction activities shall not exceed the NCRWQCB water quality objectives for turbidity in the Trinity River Basin. The current threshold for turbidity levels in the Trinity River, as listed in the Basin Plan (NCRWQCB 2001), is summarized below. ▪ Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.	Construction	BOR (monitoring)	
BT-1b: To ensure that turbidity levels do not exceed the threshold listed above during in-stream project construction activities; the BOR shall coordinate with the contractor to monitor turbidity levels 50 feet upstream and 300 feet downstream of the point of in-stream construction activities. Sampling procedures shall be performed in accordance with applicable permit requirements. Grab samples should be taken four times daily, when construction activities potentially have the greatest water quality impact (i.e.,	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
construction of temporary construction detour, placement of rip-rap, if applicable). In the event that monitoring data reveal that Basin Plan turbidity objectives are being exceeded, BOR shall modify its construction activities in whatever manner is necessary to reduce turbidity to levels consistent with those objectives.			
BT-1c: Contractor shall prepare and implement an SWPPP that includes silt fences, sediment filters, dewatering activities, and routine monitoring to verify effectiveness. Proper implementation of erosion and sediment controls and dewatering activities should be adequate to minimize sediment inputs into the Trinity River until vegetation re-growth occurs. All sediment containment devices and erosion control devices will be inspected daily during the construction period to ensure that devices are properly functioning. Excavated and stored materials will be kept in upland sites with erosion control properly installed and maintained. Excavated and stored materials will be staged in stable upland sites. All applicable erosion control standards will be required during stockpiling of materials.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
BT-2a: The BOR shall require that the bridge contractor prepare and implement a spill prevention and containment plan in accordance with applicable federal and state requirements.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
BT-2b: The BOR shall include in the construction contract documents a requirement that any construction equipment that would come in contact with the Trinity River will need to be inspected daily for leaks prior to entering the flowing channel. External oil, grease, and mud will be removed from equipment using steam cleaning. Untreated wash and rinse water must be adequately treated prior to discharge if that is the desired disposal option.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BT-2c: The BOR shall include in the construction contract documents a requirement that hazardous materials, including fuels, oils, solvents, not be stored or transferred within 150 feet of the active Trinity River	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
channel. Areas for fuel storage, refueling, and servicing will be located at least 150 feet from the active river channel. In addition, the construction contractor shall be responsible for maintaining spill containment booms onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.			
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: Turbidity increases associated with project construction activities shall not exceed the NCRWQCB water quality objectives for turbidity in the Trinity River Basin. The current threshold for turbidity levels in the Trinity River, as listed in the Basin Plan (NCRWQCB 2001), is summarized below. ▪ Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.	Construction	BOR (monitoring)	
PB-1b: To ensure that turbidity levels do not exceed the threshold listed above during in-stream project construction activities; the BOR shall coordinate with the contractor to monitor turbidity levels 50 feet upstream and 300 feet downstream of the point of in-stream construction activities. Sampling procedures shall be performed in accordance with applicable permit requirements. Grab samples should be taken four times daily, when construction activities potentially have the greatest water quality impact (i.e., during abutment construction or bridge removal activities). In the event that monitoring data reveal that Basin Plan turbidity objectives are being exceeded, BOR shall modify its construction activities in whatever manner is necessary to reduce turbidity to levels consistent with those objectives.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
PB-1c: Contractor shall prepare and implement an SWPPP that includes silt fences, sediment filters, dewatering activities, and routine monitoring to verify effectiveness. Proper implementation of erosion and sediment controls and dewatering activities should be adequate to minimize sediment inputs into the Trinity River until vegetation re-growth occurs. All sediment containment devices and erosion control devices will be inspected daily during the construction period to ensure that devices are properly functioning. Excavated and stored materials will be kept in upland sites with erosion control properly installed and maintained. Excavated and stored materials will be staged in stable upland sites. All applicable erosion control standards will be required during stockpiling of materials.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
PB-2a: The BOR shall require that the bridge contractor prepare and implement a spill prevention and containment plan in accordance with applicable federal and state requirements.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
PB-2b: The BOR shall include in the construction contract documents a requirement that any construction equipment that would come in contact with the Trinity River will need to be inspected daily for leaks prior to entering the flowing channel. External oil, grease, and mud will be removed from equipment using steam cleaning. Untreated wash and rinse water must be adequately treated prior to discharge if that is the desired disposal option.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
PB-2c: The BOR shall include in the construction contract documents a requirement that hazardous materials, including fuels, oils, solvents, not be stored or transferred within 150 feet of the active Trinity River channel. Areas for fuel storage, refueling, and servicing will be located at least 150 feet from the active river channel. In addition, the construction contractor shall be responsible for maintaining spill containment booms onsite at all times during construction operations and/or staging of equipment or	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
fueling supplies. Fueling trucks will maintain a spill containment boom at all times.			
Biggers Road			
Proposed Action, Alternative 1			
BR-1a: Turbidity increases associated with project construction activities shall not exceed the NCRWQCB water quality objectives for turbidity in the Trinity River Basin. The current threshold for turbidity levels in the Trinity River, as listed in the Basin Plan (NCRWQCB 2001), is summarized below. ▪ Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.	Construction	BOR (monitoring)	
BR-1b: To ensure that turbidity levels do not exceed the threshold listed above during in-stream project construction activities; the BOR shall coordinate with the contractor to monitor turbidity levels 50 feet upstream and 300 feet downstream of the point of in-stream construction activities. Sampling procedures shall be performed in accordance with applicable permit requirements. Grab samples should be taken four times daily, when construction activities potentially have the greatest water quality impact (i.e., bridge removal, retaining wall construction, if applicable). In the event that monitoring data reveal that Basin Plan turbidity objectives are being exceeded, BOR shall modify its construction activities in whatever manner is necessary to reduce turbidity to levels consistent with those objectives.	Construction	Contractor (implementation) BOR (monitoring)	
BR-1c: Contractor shall prepare and implement an SWPPP that includes silt fences, sediment filters, dewatering activities, and routine monitoring to verify effectiveness. Proper implementation of erosion and sediment controls and dewatering activities should be	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
adequate to minimize sediment inputs into the Trinity River until vegetation re-growth occurs. All sediment containment devices and erosion control devices will be inspected daily during the construction period to ensure that devices are properly functioning. Excavated and stored materials will be kept in upland sites with erosion control properly installed and maintained. Excavated and stored materials will be staged in stable upland sites. All applicable erosion control standards will be required during stockpiling of materials.			
BR-2a: The BOR shall require that the bridge contractor prepare and implement a spill prevention and containment plan in accordance with applicable federal and state requirements.	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
BR-2b: The BOR shall include in the construction contract documents a requirement that any construction equipment that would come in contact with the Trinity River will need to be inspected daily for leaks prior to entering the flowing channel. External oil, grease, and mud will be removed from equipment using steam cleaning. Untreated wash and rinse water must be adequately treated prior to discharge if that is the desired disposal option.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BR-2c: The BOR shall include in the construction contract documents a requirement that hazardous materials, including fuels, oils, solvents, not be stored or transferred within 150 feet of the active Trinity River channel. Areas for fuel storage, refueling, and servicing will be located at least 150 feet from the active river channel. In addition, the construction contractor shall be responsible for maintaining spill containment booms onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
3.6 FISHERY RESOURCES			
Salt Flat			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Proposed Action, Alternative 1, Alternative 2			
SF-1a: Timing of construction activities within the active low flow channel of the Trinity River shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather and biological conditions), to avoid, or minimize, impacts to rearing juvenile and adult salmonids. An initial extension to this in-water construction period is requested for the Salt Flat site, where in-water work will take place during the fall/winter 2003-2004 (outside of the June 15 to September 15 dry season in-river construction period) during the first year of construction to meet proposed time schedules outlined in Chapter 2. In-water construction and demolition will be restricted to the June 15th to September 15th period during all subsequent years' work.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1b: Disturbance of LWD shall be avoided when possible. LWD necessarily removed from the construction area would be stockpiled at the construction site for replacement in the Trinity River at an appropriate location within the site as determined by a fishery biologist.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1c: Slope protection for road approaches and bridge abutments extending into the channel or that may contact ordinary high water and flood waters of the Trinity River shall be composed only of appropriately sized, clean, shot quarried rock or boulder material.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1d: Fill gravels used on the streambeds and stream banks will be composed of washed, spawning-sized gravels from a local Trinity Basin source. Gravel will be washed to remove any silts, sand, clay, and organic matter and will be free of contaminants such as petroleum products. Washed gravel will pass the Caltrans cleanliness test #227 with a value of 85 or greater.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
SF-1e: To avoid or minimize potential injury and mortality of fish during excavation and placement of fill or riprap materials within the active low flow channel, equipment shall be operated slowly and deliberately to alert and scare adult and juvenile salmonids away from the work area. The contractor shall be instructed that before submerging an excavator bucket or laying gravel or riprap below the water surface, the excavator bucket will be operated to "tap" the surface of the water, or a person will wade ahead of fill placement equipment to scare fish away from the work area.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1f: The moderate depth run and pool habitat within the active low flow channel adjacent to the right bank abutment of the new bridge will be encroached by placement of riprap revetment. Engineered riprap is designed with a geotextile filter fabric underlayment. The purpose of this material is to keep fine sediment from migrating out from the toe of riprap. Riprap shall be composed only of appropriately sized, clean, shot rock or boulder material.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1g: The temporary side-channel crossing shall be located to minimize channel changes and the amount of excavation or fill needed for construction. Fill shall be formed from washed, spawning-sized gravel, between ⅜- and four inches in diameter (Pollock 1969; Bell 1986). When use of this temporary crossing is completed, any fill shall be spread and contoured to match the original side-channel streambed and banks.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1h: Fill material used to construct the working platforms for removal of the existing bridge's mid-channel piers shall be formed from washed, spawning-sized gravel, between ⅜- and four inches in diameter. This material will be graded to match natural streambed and bank contours at the site after completion of work. It is anticipated that each of these work platforms will be in place for up to seven days.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1i: Because the proposed construction schedule includes in-river work that could impact spawning spring- and fall-run chinook salmon, coho salmon, and steelhead or their eggs once in the gravel, anti-	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
spawning mats (heavy-gauge wire fencing secured over streambed gravels) will be installed in areas identified as potential spawning sites within the immediate vicinity of the side-channel crossing and single mid-channel bent. Anti-spawning mats will be installed prior to the beginning of spawning (i.e., on/or before September 1).			
SF-2a: Erosion control work shall consist of application of erosion control materials within non-riparian upland areas and approach fills, embankment slopes, excavation slopes, and other areas designated by the project Engineer. These materials shall consist of fiber, native grass and forb seed (e.g., hydroseeding), commercial fertilizer, and water.	Construction	Contractor (implementation) BOR (monitoring)	
SF-2b Activities that increase the erosion potential within the project ESL and action area shall be restricted to the fullest extent possible to the relatively dry summer and early fall period to minimize the potential for rainfall events to mobilize and transport sediment to the Trinity River. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures must be in place and operational at the end of each construction day and maintained until disturbed ground surfaces have been successfully revegetated.	Construction	Contractor (implementation) BOR (monitoring)	
SF-2c: Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by BOR.	Construction	Contractor (implementation) BOR (monitoring)	
SF-2d: Hydroseeding, or other Type-D erosion control, shall be applied to areas where vegetation has been removed to reduce short-term erosion prior to the start of the rainy season. Soils shall not be left exposed during the rainy season.	Construction	Contractor (implementation) BOR (monitoring)	
SF-2e: Filter fences and catch basins shall be placed below all construction activities near the edge of the Trinity River, but not in contact with flowing water, to intercept sediment before it reaches the waterway.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
These structures shall be installed prior to any clearing or grading activities.			
SF-2f: Spoil sites shall be located such that they do not drain directly into surface water features, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Catch basins will be sized appropriately to allow percolation of effluent through the bottom and the sides rather than overflow. Spoil sites shall be graded and vegetated to reduce the potential for erosion.	Construction	Contractor (implementation) BOR (monitoring)	
SF-2g: Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until the disturbed areas have been revegetated.	Construction	Contractor (implementation) BOR (monitoring)	
SF-2h: Appropriate monitoring measures shall be implemented by BOR, BLM, and the County to document compliance with the measures described above. Monitoring measures would include turbidity measurements below the work sites, inspection of catch basins and filter fences, and monitoring of revegetation progress. In the event that monitoring detects that turbidity standards are exceeded (see Section 3.5, Water Quality), work shall cease until levels are acceptable.	Construction	Contractor (implementation) BOR/BLM/County (monitoring)	
Construction specifications shall include the following measures to reduce potential impacts associated with accidental spills of pollutants (i.e., fuel, oil, grease, etc.) to vegetation and aquatic habitat resources within the project ESL:	Preconstruction	BOR (bid doc preparation)	
SF-3a: Equipment and materials shall be stored away from wetland and surface water features.	Construction	Contractor (implementation) BOR (monitoring)	
SF-3b: Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 150 feet away from the Trinity River.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
SF-3c: Spill containment booms will be maintained onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.	Construction	Contractor (implementation) BOR (monitoring)	
SF-3d: The contractor will develop and implement site-specific best management practices (BMPs), a water pollution control plan, and emergency spill controls, and will be responsible for containment and removal of any toxins released (Refer to Section 3.5, Water Quality for more information on water quality standards and local ordinances that would govern preparation of guidance plans).	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
SF-4a: To minimize effects on upstream and downstream migrant salmonids and lampreys, the timing of in-water construction activities within the typical low-flow channel shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather and biological conditions), to avoid, or minimize, impacts to migrating fishes. An initial extension to this in-water construction period is requested for the Salt Flat site, where in-water work will take place during the fall/winter 2003-2004 (outside of the June 15th to September 15th dry season in-river construction period) to meet proposed time schedules outlined in Chapter 2. In-water construction and demolition will be restricted to the June 15th to September 15th period during all subsequent years' work.	Construction	Contractor (implementation) BOR (monitoring)	
SF-4b: Use of gravel fill in the left side-channel to form a temporary, stable, wet crossing shall be placed to maintain a water depth of approximately one foot at the crossing to minimize impacts to fish movement. This depth is typical of shallow riffles in the side channel at river flows of Q = 450 cfs. Washed gravel will pass the Caltrans cleanliness test #227 with a value of 85 or greater. Placement of steel landing mat for the temporary crossing shall be made so that the	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
mat is flush to the streambed, or flush to any necessary fill placed on the streambed. The contractor shall perform daily inspection of the temporary side-channel crossing. Debris accumulations on the steel mat will be removed when observed.			
SF-4c: Use of gravel to form temporary, stable work platforms for removal of the old bridge piers in the main river channel shall be placed to extend across no greater than one-third the wetted channel width to minimize effects on fish migration. This will necessitate removing one pier at a time. Washed gravel will pass the Caltrans cleanliness test #227 with a value of 85 or greater. Each gravel platform will be spread and graded to match existing riverbed contours as demolition work is completed. Work platforms will be constructed and used only during the June 15th to September 15th period. It is anticipated that each of these work platforms will be in place for up to seven days.	Construction	Contractor (implementation) BOR (monitoring)	
SF-5a: Timing of construction activities within the active low flow channel of the Trinity River shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather and biological conditions), to avoid, or minimize, impacts to rearing juvenile and staging adult salmonids. An initial extension to this in-water construction period is requested for the Salt Flat site, where in-water work will take place during the fall/winter 2003-2004 (outside of the June 15th to September 15th dry season in-river construction period) to meet proposed time schedules outlined in Chapter 2. In-water construction and demolition will be restricted to the June 15th to September 15th period during all subsequent years' work.	Construction	Contractor (implementation) BOR (monitoring)	
SF-5b: To avoid or minimize potential injury and mortality of fish during excavation and placement of fill or riprap materials within the active low flow channel, equipment shall be operated slowly and deliberately to alert and scare adult and juvenile salmonids away from the work area. The contractor shall be instructed that	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
before submerging an excavator bucket or laying gravel or riprap below the water surface, the excavator bucket will be operated to "tap" the surface of the water, or a person will wade ahead of fill placement equipment to scare fish away from the work area.			
To maintain SRA habitat and bank stability adjacent to the bridge abutments, the projects would be designed to avoid and minimize losses of riparian vegetation adjacent to the Trinity River channel. Exclusionary fencing shall be installed along the boundaries of all riparian areas where construction access would have to occur to ensure that impacts to riparian vegetation are minimized. When loss of riparian vegetation within the project ESL is unavoidable, BOR shall implement the following measures:	Preconstruction Construction	BOR (final design) Contractor (implementation) BOR (monitoring)	
SF-6a: Prior to construction, a qualified biologist shall count and identify riparian tree and shrub species that would be removed to accommodate construction of the new bridge and roadway approaches.	Preconstruction	BOR (survey)	
SF-6b: To mitigate for the loss of riparian habitat, the project would be designed to avoid and minimize losses to SRA features within the project construction limits to the fullest extent possible. When a loss of riparian vegetation is unavoidable, BOR will replant at a ratio of 3:1 (per woody riparian plant) to replace plants lost due to project construction activities. The 3:1 replanting ratio has been determined to be adequate to ensure successful establishment of at least one vigorous plant for replacement mitigation. Replacement of permanently lost riparian habitat would occur within the area previously occupied by the old bridge, which will be removed as part of the project, as well as open areas upstream and downstream of the new bridge and adjacent to the Trinity River. For temporary impacts, a mitigation ratio of 3:1 (per woody riparian plant) will also be used. Revegetation to address temporary impacts shall occur within the construction access areas upon completion of the project.	Preconstruction Construction Post construction	BOR (final design) Contractor (avoidance) BOR (monitoring BOR (revegetation & monitoring)	
SF-6c: BOR shall develop and implement a	Preconstruction	BOR (preparation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
revegetation plan for impacts to riparian wetland that occur during project construction. The revegetation plan should identify appropriate mitigation for impacts, describe planting techniques and locations, and incorporate plantings of native species that would resist invasion of noxious plant species.			
SF-6d: Following the completion of construction activities, plantings shall be established to replace all riparian trees and shrubs that would be removed during project work. All non-native species that are removed will be replaced with native species. Replacement trees and shrubs should be planted in the appropriate season (i.e., spring or fall) following the completion of construction. Propagules (i.e., shrub cuttings, tree seedlings) shall be obtained either onsite or from a local nursery and planted along the Trinity River within the immediate project ESL. BOR or their contractor shall monitor the plantings annually for up to three years to ensure that trees and shrubs have become established. Supplemental planting would be conducted, as necessary, to ensure that this performance standard is met. Once riparian mitigation has been successfully completed, BOR shall submit a memorandum to the Corps and NMFS documenting the results.	Post construction	BOR (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-2a BMPs for erosion and runoff control to protect adjacent wetland habitat values are included as part of the mitigation requirements described in Section 3.7, Vegetation, Wildlife, and Wetlands.	Construction	Contractor (implementation) BOR (monitoring)	
Construction specifications shall include the following measures to reduce potential impacts associated with accidental spills of pollutants (i.e., fuel, oil, grease, etc.) to vegetation and aquatic habitat resources within the project ESL:	Preconstruction	BOR (bid doc preparation)	
BT-3a: Equipment and materials shall be stored away from wetland and surface water features.	Construction	Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
		BOR (monitoring)	
BT-3b: Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 150 feet away from the Trinity River.	Construction	Contractor (implementation) BOR (monitoring)	
BT-3c: Spill containment booms will be maintained onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.	Construction	Contractor (implementation) BOR (monitoring)	
BT-3d: The contractor will develop and implement site-specific BMPs, a water pollution control plan, and emergency spill controls, and will be responsible for containment and removal of any toxins released (Refer to Section 3.5, Water Quality for more information on water quality standards and local ordinances that would govern preparation of guidance plans).	Construction	Contractor (implementation) BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: Timing of construction activities within the active low flow channel of the Trinity River shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather conditions), to avoid, or minimize, impacts to rearing juvenile and staging adult salmonids. In-water construction and demolition will be restricted to the June 15th to September 15th period during all subsequent years' work.	Construction	Contractor (implementation) BOR (monitoring)	
PB-1b: Disturbance of LWD shall be avoided when possible. Necessarily removed LWD from the construction area would be stockpiled at the construction site for replacement in the Trinity River at an appropriate location within the site as determined by a fishery biologist.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
PB-1c: Slope protection for road approaches and bridge abutments that may contact ordinary high water and flood waters of the Trinity River shall be composed only of appropriately sized, clean, shot quarried rock or boulder material.	Construction	Contractor (implementation) BOR (monitoring)	
PB-1d: Fill gravels used on the streambeds and stream banks will be composed of washed, spawning-sized gravels from a local Trinity basin source. Gravel will be washed to remove any silts, sand, clay, and organic matter and will be free of contaminates such as petroleum products. Washed gravel will pass the Caltrans cleanliness test #227 with a value of 85 or greater.	Construction	Contractor (implementation) BOR (monitoring)	
PB-1e: The conservation measures proposed above for other project-related impacts to salmonids are adequate for addressing most other potential impacts to EFH for coho and chinook salmon. Additional site-specific conservation measures that avoid or minimize impacts to EFH are described for each project site in the next section.	Construction	Contractor (implementation) BOR (monitoring)	
PB-2a: Type D erosion control measures (e.g., hydroseeding) shall be implemented on impacted non-riparian upland areas, and on approach embankments where riparian trees and shrubs cannot be replanted.	Construction	Contractor (implementation) BOR (monitoring)	
PB-2b: Erosion control work shall consist of one application of erosion control materials within non-riparian upland areas and approach fills, embankment slopes, excavation slopes, and other areas designated by the project Engineer. These materials shall consist of fiber, native grass and forb seed, commercial fertilizer, and water.	Construction	Contractor (implementation) BOR (monitoring)	
PB-2c: Any construction activities proposed between the ordinary high water line (bankfull channel) and the low-flow channel water surface of the Trinity River, excluding passive vegetation removal activities above ground level (no soil disturbance), shall be restricted to the dry season (typically June 15th to September 15th).	Construction	Contractor (implementation) BOR (monitoring)	
PB-2d: Activities that increase the erosion potential	Construction	Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
within the project ESL and action area shall be restricted to the fullest extent possible to the relatively dry summer and early fall period to minimize the potential for rainfall events to mobilize and transport sediment to the Trinity River. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures must be in place and operational at the end of each construction day and maintained until disturbed ground surfaces have been successfully revegetated.		BOR (monitoring)	
PB-2e: Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by BOR.	Construction	Contractor (implementation) BOR (monitoring)	
PB-2f: Type D erosion control (e.g., hydroseeding) shall be applied to areas where vegetation has been removed to reduce short-term erosion prior to the start of the rainy season. Soils shall not be left exposed during the rainy season.	Construction	Contractor (implementation) BOR (monitoring)	
PB-2g: Filter fences and catch basins shall be placed below all construction activities near the edge of the Trinity River, but not in contact with flowing water, to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities.	Construction	Contractor (implementation) BOR (monitoring)	
PB-2h: Spoil sites shall be located such that they do not drain directly into surface water features, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Catch basins will be sized appropriately to allow percolation of effluent through the bottom and the sides rather than overflow. Spoil sites shall be graded and vegetated to reduce the potential for erosion.	Construction	Contractor (implementation) BOR (monitoring)	
PB-2i: Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until the disturbed areas have been revegetated.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
PB-2j: Appropriate monitoring measures shall be implemented by BOR, BLM, and the County to document compliance with the measures described above. Monitoring measures would include turbidity measurements below the work sites, inspection of catch basins and filter fences, and monitoring of revegetation progress.	Construction	Contractor (implementation) BOR, BLM, County (monitoring)	
Construction specifications shall include the following measures to reduce potential impacts associated with accidental spills of pollutants (i.e., fuel, oil, grease, etc.) to vegetation and aquatic habitat resources within the project ESL:	Preconstruction	BOR (bid doc preparation)	
PB-3a: Equipment and materials shall be stored away from wetland and surface water features.	Construction	Contractor (implementation) BOR (monitoring)	
PB-3b: Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 150 feet away from the Trinity River.	Construction	Contractor (implementation) BOR (monitoring)	
PB-3c: Spill containment booms will be maintained onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.	Construction	Contractor (implementation) BOR (monitoring)	
PB-3d: The contractor will develop and implement site-specific BMPs, a water pollution control plan, and emergency spill controls, and will be responsible for containment and removal of any toxins released (Refer to Section 3.5, Water Quality for more information on water quality standards and local ordinances that would govern preparation of guidance plans).	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
PB-4a: To minimize effects on upstream and downstream migrant salmonids, the timing of in-water construction activities within the typical low-flow channel shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather conditions). In-water	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
construction and demolition will be restricted to the June 15th to September 15th period during all subsequent years' work.			
PB-5a: Timing of construction activities within the active low flow channel of the Trinity River shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather conditions), to avoid, or minimize, impacts to rearing juvenile and staging adult salmonids and other fishes.	Construction	Contractor (implementation) BOR (monitoring)	
To maintain SRA habitat and bank stability adjacent to the bridge abutments, the projects would be designed to avoid and minimize losses of riparian vegetation adjacent to the Trinity River channel. Exclusionary fencing shall be installed along the boundaries of all riparian areas where construction access would have to occur to ensure that impacts to riparian vegetation are minimized. When loss of riparian vegetation within the project ESL is unavoidable, BOR shall implement the following measures:	Preconstruction	BOR (final design) Contractor (implementation) BOR (monitoring)	
PB-6a: Prior to construction, a qualified biologist shall count and identify riparian tree and shrub species that would be removed to accommodate construction of the new bridge and roadway approaches.	Preconstruction	BOR (implementation)	
PB-6b: To mitigate for the loss of riparian habitat, the project would be designed to avoid and minimize losses to SRA features within the project construction limits to the fullest extent possible. When a loss of riparian vegetation is unavoidable, BOR will replant at a ratio of 3:1 (per woody riparian plant) to replace plants lost due to project construction activities. The 3:1 replanting ratio has been determined to be adequate to ensure successful establishment of at least one vigorous plant for replacement mitigation. Replacement of permanently lost riparian habitat would occur within the area previously occupied by the old bridge, which will be removed as part of the project, as well as open areas upstream and downstream of the new bridge and adjacent to the Trinity River. For temporary impacts, a mitigation ratio	Preconstruction Construction Post construction	BOR (final design) Contractor (avoidance) BOR (monitoring BOR (revegetation & monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
of 3:1 (per woody riparian plant) will also be used. Revegetation to address temporary impacts shall occur within the construction access areas upon completion of the project.			
PB-6c: BOR shall develop and implement a revegetation plan for impacts to riparian wetland that occur during project construction. The revegetation plan should identify appropriate mitigation for impacts, describe planting techniques and locations, and incorporate plantings of native species that would resist invasion of noxious plant species.	Preconstruction	BOR (preparation)	
PB-6d: Following the completion of construction activities, plantings shall be established to replace all riparian trees and shrubs that would be removed during project work. All non-native species that are removed will be replaced with native species. Replacement trees and shrubs should be planted in the appropriate season (i.e., spring or fall) following the completion of construction. Propagules (i.e., shrub cuttings, tree seedlings) shall be obtained either onsite or from a local nursery and planted along the Trinity River within the immediate project ESL. BOR shall monitor the plantings annually for up to three years to ensure that trees and shrubs have become established. Supplemental planting would be conducted, as necessary, to ensure that this performance standard is met. Once riparian mitigation has been successfully completed, BOR shall submit a memorandum to the Corps and NMFS documenting the results.	Post construction	BOR (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action, Alternative 1			
BR-1a: Timing of construction activities within the active low flow channel of the Trinity River shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather conditions), to avoid, or minimize, impacts to rearing juvenile and staging adult salmonids. In-water construction and demolition will be restricted to the	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
June 15th to September 15th period during all subsequent years' work.			
BR-1b: Disturbance of LWD shall be avoided when possible. Necessarily removed LWD from the construction area would be stockpiled at the construction site for replacement in the Trinity River at an appropriate location within the site as determined by a fishery biologist.	Construction	Contractor (implementation) BOR (monitoring)	
BR-1c: Slope protection for road approaches and bridge abutments that may contact ordinary high water and flood waters of the Trinity River shall be composed only of appropriately sized, clean, shot quarried rock or boulder material.	Construction	Contractor (implementation) BOR (monitoring)	
BR-1d: Fill gravels used on the streambeds and stream banks will be composed of washed, spawning-sized gravels from a local Trinity basin source. Gravel will be washed to remove any silts, sand, clay, and organic matter and will be free of contaminates such as petroleum products. Washed gravel will pass the Caltrans cleanliness test #227 with a value of 85 or greater.	Construction	Contractor (implementation) BOR (monitoring)	
BR-1e: Fill material used to construct the working platforms for installation of the single bent, and for removal of the existing bridge's mid-channel pier shall be formed from washed, spawning-sized gravel, between ⅜ and four inches in diameter. This material would be graded to match natural streambed and bank contours at the site after completion of work. It is anticipated that the work platform to access the mid-channel pier will be in place for up to five days.	Construction	Contractor (implementation) BOR (monitoring)	
BR-1f: The conservation measures proposed above for other project-related impacts to salmonids are adequate for addressing most other potential impacts to EFH for coho and chinook salmon. Additional site-specific conservation measures that avoid or minimize impacts to EFH are described for each project site in the next section.	Construction	Contractor (implementation) BOR (monitoring)	
BR-2a: Type D erosion control measures (e.g.,	Construction	Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
hydroseeding) shall be implemented on impacted non-riparian upland areas, and on approach embankments where riparian trees and shrubs cannot be replanted.		BOR (monitoring)	
BR-2b: Erosion control work shall consist of one application of erosion control materials within non-riparian upland areas and approach fills, embankment slopes, excavation slopes, and other areas designated by the project Engineer. These materials shall consist of fiber, native grass and forb seed, commercial fertilizer, and water.	Construction	Contractor (implementation) BOR (monitoring)	
BR-2c: Any construction activities proposed between the ordinary high water line (bankfull channel) and the low-flow channel water surface of the Trinity River, excluding passive vegetation removal activities above ground level (no soil disturbance), shall be restricted to the dry season (typically June 15th – September 15th).	Construction	Contractor (implementation) BOR (monitoring)	
BR-2d: Activities that increase the erosion potential within the project ESL and action area shall be restricted to the fullest extent possible to the relatively dry summer and early fall period to minimize the potential for rainfall events to mobilize and transport sediment to the Trinity River. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures must be in place and operational at the end of each construction day and maintained until disturbed ground surfaces have been successfully revegetated.	Construction	Contractor (implementation) BOR (monitoring)	
BR-2e: Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by BOR.	Construction	Contractor (implementation) BOR (monitoring)	
BR-2f: Type D erosion control (e.g., hydroseeding) shall be applied to areas where vegetation has been removed to reduce short-term erosion prior to the start of the rainy season. Soils shall not be left exposed during the rainy season.	Construction	Contractor (implementation) BOR (monitoring)	
BR-2g: Filter fences and catch basins shall be placed below all construction activities near the edge of the Trinity River, but not in contact with flowing water, to	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities.			
BR-2h: Spoil sites shall be located such that they do not drain directly into surface water features, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Catch basins will be sized appropriately to allow percolation of effluent through the bottom and the sides rather than overflow. Spoil sites shall be graded and vegetated to reduce the potential for erosion.	Construction	Contractor (implementation) BOR (monitoring)	
BR-2i: Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until the disturbed areas have been revegetated.	Construction Post construction	Contractor (implementation) BOR (monitoring) BOR (monitoring)	
BR-2j: Appropriate monitoring measures shall be implemented by BOR, BLM, and the County to document compliance with the measures described above. Monitoring measures would include turbidity measurements below the work sites, inspection of catch basins and filter fences, and monitoring of revegetation progress.	Construction	Contractor (implementation) BOR, BLM, County (monitoring)	
Construction specifications shall include the following measures to reduce potential impacts associated with accidental spills of pollutants (i.e., fuel, oil, grease, etc.) to vegetation and aquatic habitat resources within the project ESL:	Preconstruction	BOR (bid doc preparation)	
BR-3a: Equipment and materials shall be stored away from wetland and surface water features.	Construction	Contractor (implementation) BOR (monitoring)	
BR-3b: Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 150 feet away from the Trinity River.	Construction	Contractor (implementation) BOR (monitoring)	
BR-3c: Spill containment booms will be maintained onsite at all times during construction operations	Construction	Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.		BOR (monitoring)	
BR-3d: The contractor will develop and implement site-specific BMPs, a water pollution control plan, and emergency spill controls, and will be responsible for containment and removal of any toxins released (Refer to Section 3.5, Water Quality for more information on water quality standards and local ordinances that would govern preparation of guidance plans).	Preconstruction Construction	Contractor (preparation) Contractor (implementation) BOR (monitoring)	
BR-4a: To minimize effects on upstream and downstream migrant salmonids, the timing of in-water construction activities within the typical low-flow channel shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather conditions). In-water construction and demolition will be restricted to the June 15th to September 15th period during all subsequent years' work.	Construction	Contractor (implementation) BOR (monitoring)	
BR-5a: To minimize effects on upstream and downstream migrant salmonids, the timing of in-water construction activities within the typical low-flow channel shall be limited to June 15th through September 15th, or later if permitted by CDFG and NMFS (dependent upon weather conditions). In-water construction and demolition will be restricted to the June 15th to September 15th period during all subsequent years' work.	Construction	Contractor (implementation) BOR (monitoring)	
BR-5b: To avoid or minimize potential injury and mortality of fish during excavation and placement of fill or riprap materials within the active low flow channel, equipment shall be operated slowly and deliberately to alert and scare adult and juvenile salmonids away from the work area. The contractor shall be instructed that before submerging an excavator bucket or laying gravel or riprap below the water surface, the excavator bucket will be operated to "tap" the surface of the water, or a person will wade ahead of fill placement equipment to scare fish away from the work area.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
To maintain SRA habitat and bank stability adjacent to the bridge abutments, the projects would be designed to avoid and minimize losses of riparian vegetation adjacent to the Trinity River channel. Exclusionary fencing shall be installed along the boundaries of all riparian areas where construction access would have to occur to ensure that impacts to riparian vegetation are minimized. When loss of riparian vegetation within the project ESL is unavoidable, BOR shall implement the following measures:	Preconstruction	BOR (final design) Contractor (implementation) BOR (monitoring)	
BR-6a: Prior to construction, a qualified biologist shall count and identify riparian tree and shrub species that would be removed to accommodate construction of the new bridge and roadway approaches.	Preconstruction	BOR (implementation)	
BR-6b: To mitigate for the loss of riparian habitat, the project would be designed to avoid and minimize losses to SRA features within the project construction limits to the fullest extent possible. When a loss of riparian vegetation is unavoidable, BOR will replant at a ratio of 3:1 (per woody riparian plant) to replace plants lost due to project construction activities. The 3:1 replanting ratio has been determined to be adequate to ensure successful establishment of at least one vigorous plant for replacement mitigation. Replacement of permanently lost riparian habitat would occur within the area previously occupied by the old bridge, which will be removed as part of the project, as well as open areas upstream and downstream of the new bridge and adjacent to the Trinity River. For temporary impacts, a mitigation ratio of 3:1 (per woody riparian plant) will also be used. Revegetation to address temporary impacts shall occur within the construction access areas upon completion of the project.	Preconstruction Construction Post construction	BOR (final design) Contractor (avoidance) BOR (monitoring BOR (revegetation & monitoring)	
BR-6c: BOR shall develop and implement a revegetation plan for impacts to riparian wetland that occur during project construction. The revegetation plan should identify appropriate mitigation for impacts, describe planting techniques and locations, and incorporate plantings of native species that would	Preconstruction	BOR (preparation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
resist invasion of noxious plant species.			
BR-6d: Following the completion of construction activities, plantings shall be established to replace all riparian trees and shrubs that would be removed during project work. All non-native species that are removed will be replaced with native species. Replacement trees and shrubs should be planted in the appropriate season (i.e., spring or fall) following the completion of construction. Propagules (i.e., shrub cuttings, tree seedlings) shall be obtained either onsite or from a local nursery and planted along the Trinity River within the immediate project ESL. BOR shall monitor the plantings annually for up to three years to ensure that trees and shrubs have become established. Supplemental planting would be conducted, as necessary, to ensure that this performance standard is met. Once riparian mitigation has been successfully completed, BOR shall submit a memorandum to the Corps and NMFS documenting the results.	Post construction	BOR (implementation) BOR (monitoring)	
3.7 VEGETATION, WILDLIFE, AND WETLANDS			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-3a: Prior to the start of construction activities, the BOR shall retain a qualified biologist to identify construction access routes within the project area to ensure that these features avoid and/or minimize to the fullest extent impacts to jurisdictional waters. In addition, jurisdictional waters shall be clearly identified in the construction drawings along with specific instructions to avoid any construction activity within these features. Each jurisdictional feature proposed to be avoided will be flagged, staked, or otherwise marked to ensure that construction activities do not encroach upon these features. The exclusionary fencing shall be inspected and maintained on a regular basis throughout the project construction phase.	Preconstruction	BOR (implementation)	
SF-3b: To mitigate for a loss of jurisdictional waters	Preconstruction	BOR (final design)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
habitat, specifically riparian wetland (montane riparian), the Project would be designed to avoid and minimize losses to wetland vegetation within the Project ESL to the fullest extent feasible. When loss of riparian wetland is unavoidable, the BOR will conduct mitigation at a ratio of 3:1 per woody riparian plant species for habitat temporarily affected and permanently lost due to project construction activities.	Post construction	BOR (implementation) BOR (monitoring)	
SF-3c: For riparian wetland (montane riparian) habitat, following completion of construction activities, plantings shall be installed to replace all riparian trees and shrubs (by species) that were removed as a result of construction (temporary and permanent impacts). Replacement shall occur at a ratio of 3:1 per woody riparian species removed as a result of project construction activities. Replacement trees and shrubs should be planted in the appropriate season (i.e., spring or fall) following the completion of construction. Propagules (i.e., shrub cuttings, trees seedlings) shall be obtained either onsite or from a local nursery and planted along the Trinity River within the immediate Project ESL. Additional planting may need to occur at on off-site location depending on available opportunities for mitigation within and adjacent to the Project ESL. The BOR or their contractor shall monitor the plantings annually for up to five years to ensure that trees and shrubs have become established. Supplemental planting would be conducted, as necessary, to ensure that the performance standard is met. Once riparian wetlands mitigation has been successfully completed, the BOR shall submit a memorandum to the Corps, CDFG, and NMFS documenting the results. *Note: This measure may be conducted in conjunction with Measures SF-6a through 6d (Loss of Shaded Riverine Aquatic Habitat), as discussed in Section 3.6, Fishery Resources.*	Post construction	BOR (implementation) BOR (monitoring)	
SF-4a: All vegetation (i.e., trees, shrubs) that will need to be removed within the project construction limits shall be removed between September 1st and March 1st (i.e., outside the nesting season for raptor	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
species) to ensure that active raptor nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and should not result in root removal or other ground-disturbances to avoid the potential for erosion and sedimentation. If all vegetation removal has been completed between September 1st and March 1st, no pre-construction surveys would be required.			
SF-4b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for nesting raptors, including Cooper's hawk and sharp-shinned hawk, within a 500-foot radius around proposed construction activities. Active raptor nests located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nests are identified within the construction disturbance area, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest(s) to determine when the young have fledged and submit status reports to the CDFG, as appropriate, throughout the nesting season. Nest tree removal shall only be performed in consultation with, and with pre-approval from the CDFG.	Preconstruction	BOR (implementation)	
SF-5a: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits shall be removed between September 1st and March 1st (i.e., outside of the nesting season for yellow warbler and yellow-breasted chat) to ensure that active nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and will not include root removal or other ground-disturbing activities, to avoid potential erosion and sedimentation. If all vegetation removal activities are completed between September 1st and March 1st, no pre-construction surveys would be required.	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
SF-5b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for yellow warbler and yellow-breasted chat within a 500-foot radius around proposed construction limits. Active nests for each species that are located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nest trees are identified within the construction disturbance zone, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest to determine when the young have fledged and submit status reports to the CDFG throughout the nesting season. Nest tree removal shall only be performed in consultation with, and with pre-approval from the CDFG.	Preconstruction	BOR (implementation)	
The following mitigation measures shall be implemented to avoid/minimize potential impacts to little willow flycatcher:			
SF-7a: If construction is proposed between the months of April and August, a protocol-level survey for willow flycatchers within 500 feet of the construction limits shall be conducted during the spring prior to construction. If no active nests are observed, construction may proceed. If construction activities are to occur between September and March, no surveys would be required. A letter report that summarizes the survey results shall be submitted to the CDFG.	Preconstruction	BOR (implementation)	
SF-7b: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits (including the temporary construction access routes) shall be removed between September 1st and March 1st (i.e., outside the nesting season for willow flycatcher) to ensure that active nest trees are not removed as a result of project construction activities.	Preconstruction	BOR (implementation)	
SF-9a: If any construction within the Trinity River channel will occur prior to August 1st of any construction season, a pre-construction survey for	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
yellow-legged frog larvae and/or eggs shall be conducted by a qualified biologist. This survey would need to be conducted within the construction limits no more than two weeks prior to the start of in-stream construction activities. If larvae or eggs are detected, the biologist shall relocate them to a suitable location outside of the construction limits.			
SF-9b: In the event that a yellow-legged frog is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the frog has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	BOR (implementation)	
SF-9c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and sedimentation and accidental spills shall be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.	Construction	Contractor (implementation) BOR (monitoring)	
SF-9d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure SF-3), and will be fully implemented.	Preconstruction	BOR (implementation)	
SF-10a: A minimum of one survey for pond turtle nests shall be conducted a maximum of one week prior to construction. A qualified biologist shall be retained by the BOR to conduct the survey. If a pond turtle nest is found, the biologist shall flag the site and determine if construction activities can avoid impacting the nest. If the nest cannot be avoided, the nest should be excavated by the biologist and reburied at a suitable location outside of the construction limits.	Preconstruction	BOR (implementation)	
SF-10b: In the event that a pond turtle is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the turtle has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	BOR (implementation)	
SF-10c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
sedimentation and accidental spills shall be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.			
SF-10d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure SF-3), and will be fully implemented.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (implementation)	
If the current bridge structure is left undisturbed until after July 31st, then no additional mitigation is required. If construction activities involving the disturbance or removal of the existing bridge occur prior to July 31st of any given construction season, the following mitigation shall be implemented to reduce potential impacts to nesting swallows to a less than significant level:			
SF-12a: The BOR or its contractor shall remove all old swallow nests, if present, on the existing bridge structure prior to March 1st of the construction year. The old nests shall be removed by washing them down with water and/or knocking them down with poles and scrapers. Since swallows are strongly attracted to old nests or remnants of nests, all traces of mud should be removed. After all old nests have been removed, exclusionary netting with a diameter of ¾ inches or less (high-density, ultra-violet stabilized polyethylene twine) shall be installed on the underside of the existing bridge structure and extend 3 to 4 inches from the sides of the bridge so as to prevent swallows from gaining access.	Preconstruction	BOR or contractor (implementation)	
SF-12b: While the contractor will have flexibility in how to install the exclusionary netting, the following methodology has been used with some recent success on large-scale bridge projects: Attach netting to the bridge with a strong cable system secure to the bridge with concrete anchors. If necessary, a separate cable support system may be used for each section between piers and panel of netting.	Preconstruction	BOR or contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Each net panel should wrap from the top ledge on the side of the bridge structure down to the top of the piers. The net should then go under the bridge structure and back up to the other side to the same location on the opposite rail. Turnbuckles and immediate fasteners should be placed within each separate panel to keep the netting tight against the wall. Care should be taken along the top railing where the netting is attached to prevent any tampering.			
SF-12c: The netting shall be left in place until July 31st and monitored daily, especially during the onset of swallow nesting behavior when nest-building activities are the most intense. Any foundational nest material that may develop on either netting attached tightly to the bridge or on un-netted areas of the bridge (i.e., pier walls) shall be removed daily. Any deficiencies in the netting system (i.e., tears, unsecured areas) shall be repaired as soon as possible following observation. To avoid a take under the MBTA, nests shall be knocked down with poles or scrapers or washed off before they are 1/3 complete.	Preconstruction	BOR or contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-3a: Prior to the start of construction activities, the BOR shall retain a qualified biologist to identify construction access routes within the project area to ensure that these features avoid and/or minimize to the fullest extent impacts to jurisdictional waters. In addition, jurisdictional waters shall be clearly identified in the construction drawings along with specific instructions to avoid any construction activity within these features.	Preconstruction	BOR (implementation)	
BT-3b: To address temporary impacts to wetland features, the following mitigation would be implemented within all staging sites and construction access areas, which traverse natural areas, during	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
construction activities: Conduct all construction and staging activities across wetland features during the dry season (typically May through October) to the fullest extent feasible. Place sediment curtains upstream and downstream of the construction limits to prevent sediment disturbed during ground-disturbing activities from being transported and deposited outside of the construction limits. Locate spoil sites such that they do not drain directly into wetland features, to the fullest extent possible. If a spoil site drains into a wetland feature, catch basins would be constructed to intercept sediment before it reaches the wetland feature. Spoil sites would be flattened and mulched to reduce the potential for erosion. Store equipment and materials away from all wetland features. No contaminants or other debris would be deposited within 25 feet of the drainages and wetland areas. Upon completion of construction activities, any impacted wetland area shall be returned to original grade. The upper 6" to 12" of topsoil should be maintained and used as backfill following installation of new sewer line. Any wetland area left bare following construction would be revegetated using plugs of rushes, sedges, or other native vegetation taken by hand from plants in adjacent wetland habitat (i.e., seasonal wet meadow, fresh emergent wetland).	Post construction	Contractor (implementation) BOR (monitoring)	
BT-3c: If permanent filling of jurisdictional wetlands is required during the construction of any phase of the proposed Project, mitigation would be required. Mitigation at a 2:1 ratio will ensure that there is no net-loss of wetlands as a result of the project. For the Proposed Action, since 0.003 acre of seasonal wet meadow would be filled, 0.006 acre of new seasonal wet meadow shall be created. For Alternative 1, since 0.002 acre of riparian wet meadow would be filled, 0.004 acre of new riparian wet meadow shall be created.	Post construction	BOR (preparation, implementation and monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
On-site mitigation is encouraged by these two resource agencies and would need to be implemented if feasible. A Wetlands Mitigation and Monitoring Plan would be prepared and provided to the Corps and the CDFG for review and approval. The Wetlands Mitigation and Monitoring Plan would identify the monitoring parameters and performance criteria for each parameter. Typical performance criteria may include: The target number of hydrophytic plant species to be established in the mitigation area shall be the average number of obligate, facultative wetland, and facultative species that occur in adjacent reference wetlands. Reference wetlands will be identified in consultation with the Corps. The percent cover of obligate, facultative wetland, and facultative species within the mitigation area shall not be less than 80 percent of the average percent cover occurring in the reference wetlands. No visible erosion of topsoil shall occur within the wetland mitigation area. Water depths, periods of inundation, and soil saturation in the mitigation area shall be similar to conditions occurring in the reference wetlands. If the performance criteria are not satisfied by the end of the fourth spring following construction of mitigation area, remediation measures shall be identified and implemented. At a minimum, the monitoring program would consist of the filing of an annual report to both agencies for five years. The mitigation would be considered successful if criteria are met for three consecutive years. The BOR or their appointed agent would maintain the mitigation site in perpetuity.			
BT-3d: For riparian wetland (montane riparian) habitat, the BOR shall develop and implement a revegetation plan to mitigate for both temporary and permanent impacts that would occur as a result of implementing the proposed project. The revegetation plan should identify appropriate mitigation for impacts (i.e., based on 3:1 ratio for project impacts), describe	Post construction	BOR (preparation, implementation, and monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
planting techniques and locations (onsite and offsite), and incorporate planting of native species that would resist invasion of noxious plant species. The revegetation plan shall be developed in consultation with the Corps, NMFS and CDFG. Following completion of construction activities, plantings shall be installed to replace all riparian trees and shrubs (by species) that were removed as a result of construction (temporary and permanent impacts). Replacement shall occur at a ratio of 3:1 per woody riparian species removed as a result of project construction activities. Replacement trees and shrubs should be planted in the appropriate season (i.e., spring or fall) following the completion of construction. Propagules (i.e., shrub cuttings, trees seedlings) shall be obtained either onsite or from a local nursery and planted along the Trinity River within the immediate Project ESL. Additional planting may need to occur at on off-site location depending on available opportunities for mitigation within and adjacent to the Project ESL. The BOR or their contractor shall monitor the plantings annually for up to five years to ensure that trees and shrubs have become established. Supplemental planting would be conducted, as necessary, to ensure that the performance standard is met. Once riparian wetlands mitigation has been successfully completed, the BOR shall submit a memorandum to the Corps, CDFG, and NMFS documenting the results. *Note: This measure may be conducted in conjunction with Measures BT-6a through BT-6d (Loss of Shaded Riverine Aquatic Habitat), as discussed in Section 3.6, Fishery Resources.*			
BT-4a: All vegetation (i.e., trees, shrubs) that will need to be removed within the project construction limits shall be removed between September 1st and March 1st (i.e., outside the nesting season for raptor species) to ensure that active raptor nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and should not result in root removal or other ground-disturbances to avoid the potential for erosion and sedimentation. If all	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
vegetation removal has been completed between September 1st and March 1st, no pre-construction surveys would be required.			
BT-4b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for nesting raptors, including Cooper's hawk and sharp-shinned hawk, within a 500-foot radius around proposed construction activities. Active raptor nests located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nests are identified within the construction disturbance area, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest(s) to determine when the young have fledged and submit status reports to the CDFG, as appropriate, throughout the nesting season. Nest tree removal shall only be performed in consultation with, and with pre-approval from the CDFG.	Preconstruction	BOR (implementation)	
BT-5a: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits shall be removed between September 1st and March 1st (i.e., outside of the nesting season for yellow warbler and yellow-breasted chat) to ensure that active nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and will not include root removal or other ground-disturbing activities, to avoid potential erosion and sedimentation. If all vegetation removal activities are completed between September 1st and March 1st, no pre-construction surveys would be required.	Preconstruction	BOR (implementation)	
BT-5b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for yellow warbler and yellow-breasted chat within a 500-foot radius around	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
proposed construction limits. Active nests for each species that are located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nest trees are identified within the construction disturbance zone, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest to determine when the young have fledged and submit status reports to the CDFG throughout the nesting season. Nest tree removal shall only be performed in consultation with, and with pre-approval from the CDFG.			
The following mitigation measures shall be implemented to avoid/minimize potential impacts to little willow flycatcher:			
BT-7a: If construction is proposed between the months of April and August, a protocol-level survey for willow flycatchers within 500 feet of the construction limits shall be conducted during the spring prior to construction. If no active nests are observed, construction may proceed. If construction activities are to occur between September and March, no surveys would be required. A letter report that summarizes the survey results shall be submitted to the CDFG.	Preconstruction	BOR (implementation)	
BT-7b: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits (including the temporary construction access routes) shall be removed between September 1st and March 1st (i.e., outside the nesting season for willow flycatcher) to ensure that active nest trees are not removed as a result of project construction activities.	Preconstruction	BOR (implementation)	
BT-9a: If any construction within the Trinity River channel will occur prior to August 1st of any construction season, a pre-construction survey for yellow-legged frog larvae and/or eggs shall be conducted by a qualified biologist. This survey would need to be conducted within the construction limits no more than two weeks prior to the start of in-stream construction activities. If larvae or eggs are detected, the biologist shall relocate them to a suitable location	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
outside of the construction limits.			
BT-9b: In the event that a yellow-legged frog is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the frog has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	BOR (implementation)	
BT-9c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and sedimentation and accidental spills shall be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.	Construction	Contractor (implementation) BOR (monitoring)	
BT-9d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure BT-3), and will be fully implemented.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (monitoring)	
BT-10a: A minimum of one survey for pond turtle nests shall be conducted a maximum of one week prior to construction. A qualified biologist shall be retained by the BOR to conduct the survey. If a pond turtle nest is found, the biologist shall flag the site and determine if construction activities can avoid impacting the nest. If the nest cannot be avoided, the nest should be excavated by the biologist and reburied at a suitable location outside of the construction limits.	Preconstruction	BOR (implementation)	
BT-10b: In the event that a pond turtle is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the turtle has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	BOR (implementation)	
BT-10c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and sedimentation and accidental spills shall be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
BT-10d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure BT-3), and will be fully implemented.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-3a: Prior to the start of construction activities, the BOR shall retain a qualified biologist to identify construction access routes within the project area to ensure that these features avoid and/or minimize to the fullest extent impacts to jurisdictional waters. In addition, jurisdictional waters shall be clearly identified in the construction drawings along with specific instructions to avoid any construction activity within these features. Each jurisdictional feature proposed to be avoided will be flagged, staked, or otherwise marked to ensure that construction activities do not encroach upon these features. The exclusionary fencing shall be inspected and maintained on a regular basis throughout the project construction phase.	Preconstruction	BOR (implementation)	
PB -3b: To mitigate for a loss of jurisdictional waters habitat, specifically riparian wetland (montane riparian), the Project would be designed to avoid and minimize losses to wetland vegetation within the Project ESL to the fullest extent feasible. When loss of riparian wetland is unavoidable, the BOR will conduct mitigation at a ratio of 3:1 per woody riparian plant species for habitat temporarily affected and permanently lost due to project construction activities.	Preconstruction Post construction	BOR (final design) BOR (implementation) BOR (monitoring)	
PB -3c: For riparian wetland (montane riparian) habitat, following completion of construction activities, plantings shall be installed to replace all riparian trees and shrubs (by species) that were removed as a result of construction (temporary and permanent impacts). Replacement shall occur at a ratio of 3:1 per woody riparian species removed as a result of project construction activities. Replacement trees and shrubs	Post construction	BOR (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
should be planted in the appropriate season (i.e., spring or fall) following the completion of construction. Propagules (i.e., shrub cuttings, trees seedlings) shall be obtained either onsite or from a local nursery and planted along the Trinity River within the immediate Project ESL. Additional planting may need to occur at on off-site location, depending on available opportunities for mitigation within and adjacent to the Project ESL. The BOR or their contractor shall monitor the plantings annually for up to five years to ensure that trees and shrubs have become established. Supplemental planting would be conducted, as necessary, to ensure that the performance standard is met. Once riparian wetlands mitigation has been successfully completed, the BOR shall submit a memorandum to the Corps, CDFG, and NMFS documenting the results. *Note: This measure may be conducted in conjunction with Measures PB-6a through PB-6d (Loss of Shaded Riverine Aquatic Habitat), as discussed in Section 3.6, Fishery Resources.*			
PB-4a: All vegetation (i.e., trees, shrubs) that will need to be removed within the project construction limits shall be removed between September 1st and March 1st (i.e., outside the nesting season for raptor species) to ensure that active raptor nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and should not result in root removal or other ground-disturbances to avoid the potential for erosion and sedimentation. If all vegetation removal has been completed between September 1st and March 1st, no pre-construction surveys would be required.	Preconstruction	BOR (implementation)	
PB-4b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for nesting raptors, including Cooper's hawk and sharp-shinned hawk, within a 500-foot radius around proposed construction activities.	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Active raptor nests located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nests are identified within the construction disturbance area, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest(s) to determine when the young have fledged and submit status reports to the CDFG, as appropriate, throughout the nesting season. Nest tree removal shall only be performed in consultation with, and with pre-approval from the CDFG.			
PB-5a: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits shall be removed between September 1st and March 1st (i.e., outside of the nesting season for yellow warbler and yellow-breasted chat) to ensure that active nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and will not include root removal or other ground-disturbing activities, to avoid potential erosion and sedimentation. If all vegetation removal activities are completed between September 1st and March 1st, no pre-construction surveys would be required.	Preconstruction	BOR (implementation)	
PB-5b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for yellow warbler and yellow-breasted chat within a 500-foot radius around proposed construction limits. Active nests for each species that are located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nest trees are identified within the construction disturbance zone, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest to determine when the young have fledged and submit status reports to the CDFG throughout the nesting season. Nest tree	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
removal shall only be performed in consultation with, and with pre-approval from the CDFG.			
PB-7a: If construction is proposed between the months of April and August, a protocol-level survey for willow flycatchers within 500 feet of the construction limits shall be conducted during the spring prior to construction. If no active nests are observed, construction may proceed. If construction activities are to occur between September and March, no surveys would be required. A letter report that summarizes the survey results shall be submitted to the CDFG.	Preconstruction	BOR (implementation)	
PB-7b: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits (including the temporary construction access routes) shall be removed between September 1st and March 1st (i.e., outside the nesting season for willow flycatcher) to ensure that active nest trees are not removed as a result of project construction activities.	Preconstruction	BOR (implementation)	
PB-9a: If any construction within the Trinity River channel will occur prior to August 1st of any construction season, a pre-construction survey for yellow-legged frog larvae and/or eggs shall be conducted by a qualified biologist. This survey would need to be conducted within the construction limits no more than two weeks prior to the start of in-stream construction activities. If larvae or eggs are detected, the biologist shall relocate them to a suitable location outside of the construction limits.	Preconstruction	BOR (implementation)	
PB-9b: In the event that a yellow-legged frog is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the frog has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	BOR (implementation)	
PB-9c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and sedimentation and accidental spills shall be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
PB-9d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure PB-3), and will be fully implemented.	Preconstruction	BOR (implementation)	
PB-10a: A minimum of one survey for pond turtle nests shall be conducted a maximum of one week prior to construction. A qualified biologist shall be retained by the BOR to conduct the survey. If a pond turtle nest is found, the biologist shall flag the site and determine if construction activities can avoid impacting the nest. If the nest cannot be avoided, the nest should be excavated by the biologist and reburied at a suitable location outside of the construction limits.	Preconstruction	BOR (implementation)	
PB-10b: In the event that a pond turtle is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the turtle has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	BOR (implementation)	
PB-10c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and sedimentation and accidental spills shall be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (implementation)	
PB-10d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure PB-3), and will be fully implemented.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (implementation)	
If the current bridge structure is left undisturbed until after July 31st, then no additional mitigation is required. If construction activities involving the disturbance or removal of the existing bridge occur prior to July 31st of any given construction season, the following mitigation shall be implemented to reduce potential impacts to nesting swallows to a less than significant level:			
PB-12a: The BOR or its contractor shall remove all old	Preconstruction	BOR or contractor	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
swallow nests, if present, on the existing bridge structure prior to March 1st of the construction year. The old nests shall be removed by washing them down with water and/or knocking them down with poles and scrapers. Since swallows are strongly attracted to old nests or remnants of nests, all traces of mud should be removed. After all old nests have been removed, exclusionary netting with a diameter of ¾ inches or less (high-density, ultra-violet stabilized polyethylene twine) shall be installed on the underside of the existing bridge structure and extend 3 to 4 inches from the sides of the bridge so as to prevent swallows from gaining access.		(implementation)	
PB-12b: While the contractor will have flexibility in how to install the exclusionary netting, the following methodology has been used with some recent success on large-scale bridge projects: Attach netting to the bridge with a strong cable system secure to the bridge with concrete anchors. If necessary, a separate cable support system may be used for each section between piers and panel of netting. Each net panel should wrap from the top ledge on the side of the bridge structure down to the top of the piers. The net should then go under the bridge structure and back up to the other side to the same location on the opposite rail. Turnbuckles and immediate fasteners should be placed within each separate panel to keep the netting tight against the wall. Care should be taken along the top railing where the netting is attached to prevent any tampering.	Preconstruction	BOR or contractor (implementation)	
PB-12c: The netting shall be left in place until July 31st and monitored daily, especially during the onset of swallow nesting behavior when nest-building activities are the most intense. Any foundational nest material that may develop on either netting attached tightly to the bridge or on un-netted areas of the bridge (i.e., pier	Preconstruction	BOR or contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
walls) shall be removed daily. Any deficiencies in the netting system (i.e., tears, unsecured areas) shall be repaired as soon as possible following observation. To avoid a take under the MBTA, nests shall be knocked down with poles or scrapers or washed off before they are 1/3 complete.			
Biggers Road			
Proposed Action, Alternative 1			
BR-3a: Prior to the start of construction activities, the BOR shall retain a qualified biologist to identify construction access routes within the project area to ensure that these features avoid and/or minimize to the fullest extent impacts to jurisdictional waters. In addition, jurisdictional waters shall be clearly identified in the construction drawings along with specific instructions to avoid any construction activity within these features. Each jurisdictional feature proposed to be avoided will be flagged, staked, or otherwise marked to ensure that construction activities do not encroach upon these features. The exclusionary fencing shall be inspected and maintained on a regular basis throughout the project construction phase.	Preconstruction	BOR (implementation)	
BR-3b: To mitigate for a loss of jurisdictional waters habitat, specifically riparian wetland (montane riparian), the Project would be designed to avoid and minimize losses to wetland vegetation within the Project ESL to the fullest extent feasible. When loss of riparian wetland is unavoidable, the BOR will conduct mitigation at a ratio of 3:1 per woody riparian plant species for habitat temporarily affected and permanently lost due to project construction activities.	Preconstruction Post construction	BOR (final design) BOR (implementation) BOR (monitoring)	
BR-3c: For riparian wetland (montane riparian) habitat, following completion of construction activities, plantings shall be installed to replace all riparian trees and shrubs (by species) that were removed as a result of construction (temporary and permanent impacts). Replacement shall occur at a ratio of 3:1 per woody riparian species removed as a result of project construction activities. Replacement trees and shrubs	Post construction	BOR (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
should be planted in the appropriate season (i.e., spring or fall) following the completion of construction. Propagules (i.e., shrub cuttings, trees seedlings) shall be obtained either onsite or from a local nursery and planted along the Trinity River within the immediate Project ESL. Additional planting may need to occur at on off-site location depending on available opportunities for mitigation within and adjacent to the Project ESL. The BOR or their contractor shall monitor the plantings annually for up to five years to ensure that trees and shrubs have become established. Supplemental planting would be conducted, as necessary, to ensure that the performance standard is met. Once riparian wetlands mitigation has been successfully completed, the BOR shall submit a memorandum to the Corps, CDFG, and NMFS documenting the results. *Note: This measure may be conducted in conjunction with Measures BR-6a through BR-6d (Loss of Shaded Riverine Aquatic Habitat), as discussed in Section 3.6, Fishery Resources.*			
BR-4a: All vegetation (i.e., trees, shrubs) that will need to be removed within the project construction limits shall be removed between September 1st and March 1st (i.e., outside the nesting season for raptor species) to ensure that active raptor nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and should not result in root removal or other ground-disturbances to avoid the potential for erosion and sedimentation. If all vegetation removal has been completed between September 1st and March 1st, no pre-construction surveys would be required.	Preconstruction	BOR (implementation)	
BR-4b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for nesting raptors, including Cooper's hawk and sharp-shinned hawk, within a 500-foot radius around proposed construction activities.	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Active raptor nests located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nests are identified within the construction disturbance area, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest(s) to determine when the young have fledged and submit status reports to the CDFG, as appropriate, throughout the nesting season. Nest tree removal shall only be performed in consultation with, and with pre-approval from the CDFG.			
BR-5a: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits shall be removed between September 1st and March 1st (i.e., outside of the nesting season for yellow warbler and yellow-breasted chat) to ensure that active nest trees are not removed as a result of project construction activities. Vegetation removal activities shall be limited to ground-level cuttings and will not include root removal or other ground-disturbing activities, to avoid potential erosion and sedimentation. If all vegetation removal activities are completed between September 1st and March 1st, no pre-construction surveys would be required.	Preconstruction	BOR (implementation)	
BR-5b: If vegetation removal cannot be accomplished between September 1st and March 1st, the BOR shall retain a qualified biologist to conduct a minimum of one survey (subsequent surveys would be separated by at least one week) for yellow warbler and yellow-breasted chat within a 500-foot radius around proposed construction limits. Active nests for each species that are located within 500 feet of construction activities shall be mapped, where practicable and feasible. If active nest trees are identified within the construction disturbance zone, they may only be removed prior to March 1st, or after the young have fledged (based on field verification). A qualified biologist shall monitor the nest to determine when the young have fledged and submit status reports to the CDFG throughout the nesting season. Nest tree	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
removal shall only be performed in consultation with, and with pre-approval from the CDFG.			
The following mitigation measures shall be implemented to avoid/minimize potential impacts to little willow flycatcher:			
BR-7a: If construction is proposed between the months of April and August, a protocol-level survey for willow flycatchers within 500 feet of the construction limits shall be conducted during the spring prior to construction. If no active nests are observed, construction may proceed. If construction activities are to occur between September and March, no surveys would be required. A letter report that summarizes the survey results shall be submitted to the CDFG.	Preconstruction	BOR (implementation)	
BR-7b: All vegetation (i.e., trees, shrubs) that will need to be removed within the construction limits (including the temporary construction access routes) shall be removed between September 1st and March 1st (i.e., outside the nesting season for willow flycatcher) to ensure that active nest trees are not removed as a result of project construction activities.	Preconstruction	BOR (implementation)	
BR-9a: If any construction within the Trinity River channel will occur prior to August 1st of any construction season, a pre-construction survey for yellow-legged frog larvae and/or eggs shall be conducted by a qualified biologist. This survey would need to be conducted within the construction limits no more than two weeks prior to the start of in-stream construction activities. If larvae or eggs are detected, the biologist shall relocate them to a suitable location outside of the construction limits.	Construction	BOR (implementation)	
BR-9b: In the event that a yellow-legged frog is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the frog has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	Contractor (implementation) BOR (monitoring)	
BR-9c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and sedimentation and accidental spills shall be fully	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.			
BR-9d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure BR-3), and will be fully implemented.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (implementation)	
BR-10a: A minimum of one survey for pond turtle nests shall be conducted a maximum of one week prior to construction. A qualified biologist shall be retained by the BOR to conduct the survey. If a pond turtle nest is found, the biologist shall flag the site and determine if construction activities can avoid impacting the nest. If the nest cannot be avoided, the nest should be excavated by the biologist and reburied at a suitable location outside of the construction limits.	Preconstruction	BOR (implementation)	
BR-10b: In the event that a pond turtle is observed within the construction limits, the contractor shall temporarily halt in-stream construction activities until the turtle has been moved to a safe location outside of the construction limits, within similar habitat.	Construction	BOR (implementation)	
BR-10c: Mitigation measures presented in Section 3.5 (Water Quality) for addressing erosion and sedimentation and accidental spills shall be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (implementation)	
BR-10d: Mitigation measures associated with the disturbance to riparian habitat are discussed previously in this section under impacts to jurisdictional wetlands (Mitigation Measure BR-3), and will be fully implemented.	Preconstruction, Construction, Post construction	Contractor (implementation) BOR (implementation)	
If the current bridge structure is left undisturbed until after July 31st, then no additional mitigation is required. If construction activities involving the disturbance or removal of the existing bridge occur prior to July 31st of any given construction season, the following mitigation			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
shall be implemented to reduce potential impacts to nesting swallows to a less than significant level:			
BR-12a: The BOR or its contractor shall remove all old swallow nests, if present, on the existing bridge structure prior to March 1st of the construction year. The old nests shall be removed by washing them down with water and/or knocking them down with poles and scrapers. Since swallows are strongly attracted to old nests or remnants of nests, all traces of mud should be removed. After all old nests have been removed, exclusionary netting with a diameter of ¾ inches or less (high-density, ultra-violet stabilized polyethylene twine) shall be installed on the underside of the existing bridge structure and extend 3 to 4 inches from the sides of the bridge so as to prevent swallows from gaining access.	Preconstruction	BOR or contractor (implementation)	
BR-12b: While the contractor will have flexibility in how to install the exclusionary netting, the following methodology has been used with some recent success on large-scale bridge projects: Attach netting to the bridge with a strong cable system secure to the bridge with concrete anchors. If necessary, a separate cable support system may be used for each section between piers and panel of netting. Each net panel should wrap from the top ledge on the side of the bridge structure down to the top of the piers. The net should then go under the bridge structure and back up to the other side to the same location on the opposite rail. Turnbuckles and immediate fasteners should be placed within each separate panel to keep the netting tight against the wall. Care should be taken along the top railing where the netting is attached to prevent any tampering.	Preconstruction	BOR or contractor (implementation)	
BR-12c: The netting shall be left in place until July 31st	Preconstruction	BOR or contractor	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
and monitored daily, especially during the onset of swallow nesting behavior when nest-building activities are the most intense. Any foundational nest material that may develop on either netting attached tightly to the bridge or on un-netted areas of the bridge (i.e., pier walls) shall be removed daily. Any deficiencies in the netting system (i.e., tears, unsecured areas) shall be repaired as soon as possible following observation. To avoid a take under the MBTA, nests shall be knocked down with poles or scrapers or washed off before they are 1/3 complete.		(implementation) BOR (monitoring)	
3.8 RECREATION			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-2a: The BOR shall provide precautionary signage to warn recreational users of the potential safety hazards associated with project construction activities. Signs and/or buoys shall be placed within and directly adjacent to the Project ESL along the Trinity River in accordance with the requirements specified in Title 14, Article 6 of the California Code of Regulations. Additionally, public notification of proposed project construction activities and associated safety hazards should be circulated in the local newspaper at least two weeks prior to the start of construction activities.	Preconstruction	BOR (implementation)	
Bucktail			
Proposed Action, Alternative 1			
BT-2a: The BOR shall provide precautionary signage to warn recreational users of the potential safety hazards associated with project construction activities. Signs and/or buoys shall be placed within and directly adjacent to the Project ESL along the Trinity River in accordance with the requirements specified in Title 14, Article 6 of the California Code of Regulations. Additionally, public notification of proposed project construction activities and associated safety hazards should be circulated in the local newspaper at least	Preconstruction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
two weeks prior to the start of construction activities.			
Poker Bar			
Proposed Action, Alternative 1			
PB-2a: The BOR shall provide precautionary signage to warn recreational users of the potential safety hazards associated with project construction activities. Signs and/or buoys shall be placed within and directly adjacent to the Project ESL along the Trinity River in accordance with the requirements specified in Title 14, Article 6 of the California Code of Regulations. Additionally, public notification of proposed project construction activities and associated safety hazards should be circulated in the local newspaper at least two weeks prior to the start of construction activities.	Preconstruction	BOR (implementation)	
Biggers Road			
Proposed Action, Alternative 1			
BR-2a: The BOR shall provide precautionary signage to warn recreational users of the potential safety hazards associated with project construction activities. Signs and/or buoys shall be placed within and directly adjacent to the Project ESL along the Trinity River in accordance with the requirements specified in Title 14, Article 6 of the California Code of Regulations. Additionally, public notification of proposed project construction activities and associated safety hazards should be circulated in the local newspaper at least two weeks prior to the start of construction activities.	Preconstruction	BOR (implementation)	
3.9 SOCIOECONOMICS, POPULATION, AND HOUSING			
No mitigation measures proposed since there were no significant impacts.			
3.10 TRIBAL TRUST			
No mitigation measures proposed since there were no significant impacts.			
3.11 CULTURAL RESOURCES			
Salt Flat			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Proposed Action, Alternative 1, Alternative 2			
SF-1a: Prior to initiation of construction or ground-disturbing activities, all construction workers shall be alerted to the possibility of buried cultural remains. This would include prehistoric and/or historic resources. Personnel shall be instructed that upon discovery of buried cultural materials, work within 50 feet of the find shall be halted and a qualified archaeologist consulted. Once the find has been identified, then the BOR will make the necessary plans for treatment of the finds(s) and for the evaluation and mitigation of impacts if the find(s) are found to be significant.	Preconstruction, Construction	BOR (implementation)	
SF-1b: If buried human remains are encountered during construction, work in that area must be halted, and the Trinity County Coroner's Office ([530] 623-4154) shall be immediately contacted. If the remains are determined to be of Native American origin, then the Native American Heritage Commission (NAHC) will be notified within 24 hours of determination, as required by *Public Resources Code* 5097. The NAHC will notify designated Most Likely Descendants, which will provide recommendations for the treatment of the remains within 24 hours. The NAHC will mediate any disputes regarding treatment of remains. If the find is determined to be an historical resource or a unique archaeological resource, as defined by CEQA, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or other appropriate mitigation shall be made available. Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place.	Construction	Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-1a: Prior to initiation of construction or ground-disturbing activities, all construction workers shall be alerted to the possibility of buried cultural remains.	Preconstruction, Construction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
This would include prehistoric and/or historic resources. Personnel shall be instructed that upon discovery of buried cultural materials, work within 50 feet of the find shall be halted and a qualified archaeologist consulted. Once the find has been identified, then the BOR will make the necessary plans for treatment of the finds(s) and for the evaluation and mitigation of impacts if the find(s) are found to be significant.			
BT-1b: If buried human remains are encountered during construction, work in that area must be halted, and the Trinity County Coroner's Office ([530] 623-4154) shall be immediately contacted. If the remains are determined to be of Native American origin, then the NAHC will be notified within 24 hours of determination, as required by *Public Resources Code* 5097. The NAHC will notify designated Most Likely Descendants, which will provide recommendations for the treatment of the remains within 24 hours. The NAHC will mediate any disputes regarding treatment of remains. If the find is determined to be an historical resource or an unique archaeological resource, as defined by CEQA, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or other appropriate mitigation shall be made available. Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place.	Construction	Contractor (implementation) BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: Prior to initiation of construction or ground-disturbing activities, all construction workers shall be alerted to the possibility of buried cultural remains. This would include prehistoric and/or historic resources. Personnel shall be instructed that upon discovery of buried cultural materials, work within 50 feet of the find shall be halted and a qualified archaeologist consulted. Once the find has been	Preconstruction, Construction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
identified, then the BOR will make the necessary plans for treatment of the finds(s) and for the evaluation and mitigation of impacts if the find(s) are found to be significant.			
PB-1b: If buried human remains are encountered during construction, work in that area must be halted, and the Trinity County Coroner's Office ([530] 623-4154) shall be immediately contacted. If the remains are determined to be of Native American origin, then the NAHC will be notified within 24 hours of determination, as required by *Public Resources Code* 5097. The NAHC will notify designated Most Likely Descendants, which will provide recommendations for the treatment of the remains within 24 hours. The NAHC will mediate any disputes regarding treatment of remains. If the find is determined to be an historical resource or an unique archaeological resource, as defined by CEQA, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or other appropriate mitigation shall be made available. Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place.	Construction	Contractor (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action, Alternative 1			
BR-1a: Prior to initiation of construction or ground-disturbing activities, all construction workers shall be alerted to the possibility of buried cultural remains. This would include prehistoric and/or historic resources. Personnel shall be instructed that upon discovery of buried cultural materials, work within 50 feet of the find shall be halted and a qualified archaeologist consulted. Once the find has been identified, then the BOR will make the necessary plans for treatment of the finds(s) and for the evaluation and mitigation of impacts if the find(s) are found to be significant.	Preconstruction, Construction	BOR (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
BR-1b: If buried human remains are encountered during construction, work in that area must be halted, and the Trinity County Coroner's Office ([530] 623-4154) shall be immediately contacted. If the remains are determined to be of Native American origin, then the NAHC will be notified within 24 hours of determination, as required by *Public Resources Code* 5097. The NAHC will notify designated Most Likely Descendants, which will provide recommendations for the treatment of the remains within 24 hours. The NAHC will mediate any disputes regarding treatment of remains. If the find is determined to be an historical resource or an unique archaeological resource, as defined by CEQA, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or other appropriate mitigation shall be made available. Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place.	Construction	Contractor (implementation) BOR (monitoring)	
3.12 AIR QUALITY			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-1a: The BOR shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust and PM_{10} emissions. The dust control program may include, but not be limited, to the following elements, as appropriate: ▪ Water inactive construction sites at least twice daily. ▪ Pursuant to *California Vehicle Code* (Section 23114), all trucks hauling soil and other loose material to and from the construction site shall be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of load and the trailer). ▪ Excavation activities and other soil-disturbing	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
activities shall be conducted in phases to reduce the amount of bare soil exposed at any one time. When operations are completed in an area, revegetation shall be initiated within 30 days. If an area is closed to operations during the dry season revegetation efforts may be postponed until the first rain to assure revegetation success. ▪ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. ▪ Sweep roads daily (with water sweepers) if visible soil material is carried onto adjacent public roads. ▪ Apply nontoxic soil stabilizers according to manufacturer's specifications to all inactive construction areas (i.e., previously graded areas inactive for ten or more days. ▪ All ground-disturbing activities with potential to generate dust shall be suspended when winds exceed 20 miles per hour, as directed by the NCUAQMD. ▪ Exposed stockpiles of soil and other backfill material shall be enclosed or covered, and watered twice daily or have soil binders added. ▪ Any topsoil which is removed for the construction operation shall be stored on-site in piles not to exceed four feet in height. These topsoil piles shall be clearly marked and flagged. ▪ Topsoil piles which will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture. ▪ Soil piles shall be marked and flagged separately from native topsoil stockpiles.			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
These soil piles shall also be planted with a non-persistent erosion control seed mix unless they are to be immediately used. Maximum height for non-topsoil soil stockpiles shall be four feet to allow development of microorganisms prior to resoiling of the construction area. ▪ Equipment and manual watering would be conducted on all stockpiles, dirt/ gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust. ▪ The contractor or agency would designate a person to monitor dust control and to order increased watering as necessary to prevent transport of dust offsite. The person would also respond to citizen complaints.			
SF-2a: The BOR shall include provisions in the construction bid documents that the contractors comply with NCUAQMD Rule 420. This compliance could occur through the use of portable internal combustion engines registered and certified under the state portable equipment regulation (Health & Safety Code 41750 through 41755).	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-1a: The BOR shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust and PM_{10} emissions. The dust control program may include, but not be limited, to the following elements, as appropriate: ▪ Water inactive construction sites at least twice daily. ▪ Pursuant to *California Vehicle Code* (Section 23114), all trucks hauling soil and other loose material to and from the construction site shall be covered or should maintain at least two feet of freeboard (i.e., minimum vertical	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
distance between top of load and the trailer). ▪ Excavation activities and other soil-disturbing activities shall be conducted in phases to reduce the amount of bare soil exposed at any one time. When operations are completed in an area, revegetation shall be initiated within 30 days. If an area is closed to operations during the dry season revegetation efforts may be postponed until the first rain to assure revegetation success. ▪ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. ▪ Sweep roads daily (with water sweepers) if visible soil material is carried onto adjacent public roads. ▪ Apply nontoxic soil stabilizers according to manufacturer's specifications to all inactive construction areas (i.e., previously graded areas inactive for ten or more days. ▪ All ground-disturbing activities with potential to generate dust shall be suspended when winds exceed 20 miles per hour, as directed by the NCUAQMD. ▪ Exposed stockpiles of soil and other backfill material shall be enclosed or covered, and watered twice daily or have soil binders added. ▪ Any topsoil which is removed for the construction operation shall be stored on-site in piles not to exceed four feet in height. These topsoil piles shall be clearly marked and flagged. Topsoil piles which will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
▪ Soil piles shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be planted with a non-persistent erosion control seed mix unless they are to be immediately used. Maximum height for non-topsoil soil stockpiles shall be four feet to allow development of microorganisms prior to resoiling of the construction area. ▪ Equipment and manual watering would be conducted on all stockpiles, dirt/ gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust. ▪ The contractor or agency would designate a person to monitor dust control and to order increased watering as necessary to prevent transport of dust offsite. The person would also respond to citizen complaints.			
BT-2a: The BOR shall include provisions in the construction bid documents that the contractors comply with NCUAQMD *Rule 420*. This compliance could occur through the use of portable internal combustion engines registered and certified under the state portable equipment regulation (*Health & Safety Code* 41750 through 41755).	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: The BOR shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust and PM_{10} emissions. The dust control program may include, but not be limited, to the following elements, as appropriate: ▪ Water inactive construction sites at least twice daily. ▪ Pursuant to *California Vehicle Code* (Section 23114), all trucks hauling soil and other loose material to and from the construction site shall	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of load and the trailer). ▪ Excavation activities and other soil-disturbing activities shall be conducted in phases to reduce the amount of bare soil exposed at any one time. When operations are completed in an area, revegetation shall be initiated within 30 days. If an area is closed to operations during the dry season revegetation efforts may be postponed until the first rain to assure revegetation success. ▪ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. ▪ Sweep roads daily (with water sweepers) if visible soil material is carried onto adjacent public roads. ▪ Apply nontoxic soil stabilizers according to manufacturer's specifications to all inactive construction areas (i.e., previously graded areas inactive for ten or more days. ▪ All ground-disturbing activities with potential to generate dust shall be suspended when winds exceed 20 miles per hour, as directed by the NCUAQMD. ▪ Exposed stockpiles of soil and other backfill material shall be enclosed or covered, and watered twice daily or have soil binders added. ▪ Any topsoil which is removed for the construction operation shall be stored on-site in piles not to exceed four feet in height. These topsoil piles shall be clearly marked and flagged. Topsoil piles which will not be immediately returned to use shall be			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
revegetated with a non-persistent erosion control mixture. ▪ Soil piles shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be planted with a non-persistent erosion control seed mix unless they are to be immediately used. Maximum height for non-topsoil soil stockpiles shall be four feet to allow development of microorganisms prior to resoiling of the construction area. ▪ Equipment and manual watering would be conducted on all stockpiles, dirt/ gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust. ▪ The contractor or agency would designate a person to monitor dust control and to order increased watering as necessary to prevent transport of dust offsite. The person would also respond to citizen complaints.			
PB-2a: The BOR shall include provisions in the construction bid documents that the contractors comply with NCUAQMD Rule 420. This compliance could occur through the use of portable internal combustion engines registered and certified under the state portable equipment regulation (*Health & Safety Code* 41750 through 41755).	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action, Alternative 1			
BR-1a: The BOR shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust and PM_{10} emissions. The dust control program may include, but not be limited, to the following elements, as appropriate: ▪ Water inactive construction sites at least twice daily. ▪ Pursuant to *California Vehicle Code* (Section	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
23114), all trucks hauling soil and other loose material to and from the construction site shall be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of load and the trailer). ▪ Excavation activities and other soil-disturbing activities shall be conducted in phases to reduce the amount of bare soil exposed at any one time. When operations are completed in an area, revegetation shall be initiated within 30 days. If an area is closed to operations during the dry season revegetation efforts may be postponed until the first rain to assure revegetation success. ▪ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. ▪ Sweep roads daily (with water sweepers) if visible soil material is carried onto adjacent public roads. ▪ Apply nontoxic soil stabilizers according to manufacturer's specifications to all inactive construction areas (i.e., previously graded areas inactive for ten or more days. ▪ All ground-disturbing activities with potential to generate dust shall be suspended when winds exceed 20 miles per hour, as directed by the NCUAQMD. ▪ Exposed stockpiles of soil and other backfill material shall be enclosed or covered, and watered twice daily or have soil binders added. ▪ Any topsoil which is removed for the construction operation shall be stored on-site in piles not to exceed four feet in height. These topsoil piles shall be clearly marked			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
and flagged. ▪ Topsoil piles which will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture. ▪ Soil piles shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be planted with a non-persistent erosion control seed mix unless they are to be immediately used. Maximum height for non-topsoil soil stockpiles shall be four feet to allow development of microorganisms prior to resoiling of the construction area. ▪ Equipment and manual watering would be conducted on all stockpiles, dirt/ gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust. ▪ The contractor or agency would designate a person to monitor dust control and to order increased watering as necessary to prevent transport of dust offsite. The person would also respond to citizen complaints.			
BR-2a: The BOR shall include provisions in the construction bid documents that the contractors comply with NCUAQMD *Rule 420*. This compliance could occur through the use of portable internal combustion engines registered and certified under the state portable equipment regulation (*Health & Safety Code* 41750 through 41755).	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
3.13 ENVIRONMENTAL JUSTICE			
No mitigation measures proposed since there were no significant impacts.			
3.14 AESTHETICS			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-1a: The following mitigation measures from Section 3.7 (Vegetation, Wildlife, and Wetlands) shall	Preconstruction, Construction, Post Construction	Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
be implemented: Mitigation Measure SF-3a through SF-3d (Replacement of Riparian Vegetation).		BOR (monitoring)	
SF-4a: Stationary nighttime light sources, if utilized, shall be directed in such a way that minimizes light shining directly into adjacent residential areas and/or individual residences.	Construction	Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-1a: The following mitigation measures from Section 3.7 (Vegetation, Wildlife, and Wetlands) shall be fully implemented: Mitigation Measure BT-3a through BT-3d (Replacement of Riparian Vegetation).	Preconstruction, Construction, Post Construction	Contractor (implementation) BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: The following mitigation measures from Section 3.7 (Vegetation, Wildlife, and Wetlands) shall be fully implemented: Mitigation Measure PB-3a through PB-3d (Replacement of Riparian Vegetation).	Preconstruction, Construction, Post Construction	Contractor (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action, Alternative 1			
BR-1a: The following mitigation measures from Section 3.7 (Vegetation, Wildlife, and Wetlands) shall be fully implemented: Mitigation Measure BR-3a through BR-3d (Replacement of Riparian Vegetation).	Preconstruction, Construction, Post Construction	Contractor (implementation) BOR (monitoring)	
3.15 HAZARDOUS MATERIALS			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
Contaminated Soils			
SF-1a: During preparation of the construction bid	Preconstruction	BOR (bid doc preparation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
documents, the BOR shall include provisions and associated contingency budget for containment, avoidance, and/or disposal of contaminated soil that may be encountered during the course of construction. The budget contingency shall account for the following: containment costs; excavation and disposal costs; overnight laboratory testing; importation of clean backfill material; and stand-by time for the construction contractor.	Construction	Contractor (implementation) BOR (monitoring)	
Lead-Based Paint			
SF-1b: The contractor will be required to submit a Demolition Plan for approval by the BOR. The plan will specify the removal techniques and containment system(s) to be used to prevent lead paint from entering the Trinity River.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
SF-1c: The contractor will be alerted to the presence of lead paint on the structure and in the soils beneath. The contractor will comply with all applicable worker safety practices required by the OSHA and the Cal-OSHA related to lead paint (i.e., 8 CCR 1532, Lead in Construction). The contractor will advise all workers of the presence of lead paint, and instruct them to wash hands after contact with painted surfaces and soils beneath the bridge, before eating, drinking, or smoking.	Preconstruction Construction	BOR (notification) Contractor (worker awareness)	
SF-1d: Prior to demolition and or reuse of the bridge, a licensed lead-based paint removal contractor shall be retained to remove any lead-based paint that is chipping or peeling from the bridge. This lead waste (paint chips, dust) shall be tested in accordance with Title 22 waste characterization requirements. Based on the results of these tests, the waste should be disposed of properly.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1e: None of the metal portions of the bridge should be sawed, burned, or sanded except as allowed by 8 CCR 1532. It is anticipated that the bridges will become the property of the contractor. If disposal is required, the bridges shall be disposed of in	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
a properly licensed landfill.			
Total Recoverable Petroleum Hydrocarbons			
SF-1f: All asphalt and tar waste generated during construction shall be removed from the project site and recycled at an approved facility.	Construction	Contractor (implementation) BOR (monitoring)	
SF-1g: All treated wood (i.e., bridge timbers) and associated waste shall be disposed of at an appropriate landfill pending the results of one or more of the following analytical tests: ▪ Toxicity Characteristic Leaching Procedure (TCLP) ▪ Fish Bioassay Testing ▪ Semi-volatile Organic Compounds (EPA Method 8270)	Construction	Contractor (implementation) BOR (monitoring)	
Bucktail			
No mitigation measures proposed since there were no significant impacts for the Bucktail site.			
Poker Bar			
Proposed Action, Alternative 1			
Contaminated Soils			
PB-1a: During preparation of the construction bid documents, the BOR shall include provisions and associated contingency budget for containment, avoidance, and/or disposal of contaminated soil that may be encountered during the course of construction. The budget contingency shall account for the following: containment costs; excavation and disposal costs; overnight laboratory testing; importation of clean backfill material; and stand-by time for the construction contractor.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Lead-Based Paint			
PB-1b: The contractor will be required to submit a Demolition Plan for approval by the BOR. The plan will specify the removal techniques and containment system(s) to be used to prevent lead paint from	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
entering the Trinity River.			
PB-1c: The contractor will be alerted to the presence of lead paint on the structures and in the soils beneath. The contractor will comply with all applicable worker safety practices required by the OSHA and the Cal-OSHA related to lead paint (i.e., 8 CCR 1532, Lead in Construction). The contractor will advise all workers of the presence of lead paint, and instruct them to wash hands after contact with painted surfaces and soils beneath the bridge, before eating, drinking, or smoking.	Preconstruction Construction	BOR (notification) Contractor (worker awareness)	
PB-1d: Prior to demolition and or reuse of the bridges, a licensed lead-based paint removal contractor shall be retained to remove any lead-based paint that is chipping or peeling from the bridge. This lead waste (paint chips, dust) shall be tested in accordance with Title 22 waste characterization requirements. Based on the results of these tests, the waste should be disposed of properly.	Construction	Contractor (implementation) BOR (monitoring)	
PB-1e: None of the metal portions of the bridges should be sawed, burned, or sanded and, based on their condition, shall be disposed of in a properly-licensed landfill.	Construction	Contractor (implementation) BOR (monitoring)	
Total Recoverable Petroleum Hydrocarbons			
PB-1f: All asphalt and tar waste generated during construction shall be removed from the project site and recycled at an approved facility.	Construction	Contractor (implementation) BOR (monitoring)	
PB-1g: All treated wood (i.e., bridge timbers) and associated waste shall be disposed of at an appropriate landfill pending the results of one or more of the following analytical tests: The TCLP; Fish Bioassay Testing; Semi-volatile Organic Compounds (EPA Method 8270).	Construction	Contractor (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action, Alternative 1			
Contaminated Soils			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
PB-1a: During preparation of the construction bid documents, the BOR shall include provisions and associated contingency budget for containment, avoidance, and/or disposal of contaminated soil that may be encountered during the course of construction. The budget contingency shall account for the following: containment costs; excavation and disposal costs; overnight laboratory testing; importation of clean backfill material; and stand-by time for the construction contractor.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Lead-Based Paint			
PB-1b: The contractor will be required to submit a Demolition Plan for approval by the BOR. The plan will specify the removal techniques and containment system(s) to be used to prevent lead paint from entering the Trinity River.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
PB-1c: The contractor will be alerted to the presence of lead paint on the structures and in the soils beneath. The contractor will comply with all applicable worker safety practices required by the OSHA and the Cal-OSHA related to lead paint (i.e., 8 CCR 1532, Lead in Construction). The contractor will advise all workers of the presence of lead paint, and instruct them to wash hands after contact with painted surfaces and soils beneath the bridge, before eating, drinking, or smoking.	Preconstruction Construction	BOR (notification) Contractor (worker awareness)	
PB-1d: Prior to demolition and or reuse of the bridges, a licensed lead-based paint removal contractor shall be retained to remove any lead-based paint that is chipping or peeling from the bridge. This lead waste (paint chips, dust) shall be tested in accordance with Title 22 waste characterization requirements. Based on the results of these tests, the waste should be disposed of properly.	Construction	Contractor (implementation) BOR (monitoring)	
PB-1e: None of the metal portions of the bridges should be sawed, burned, or sanded and, based on their condition, shall be disposed of in a properly-licensed landfill.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Total Recoverable Petroleum Hydrocarbons			
PB-1f: All asphalt and tar waste generated during construction shall be removed from the project site and recycled at an approved facility.	Construction	Contractor (implementation) BOR (monitoring)	
PB-1g: All treated wood (i.e., bridge timbers) and associated waste shall be disposed of at an appropriate landfill pending the results of one or more of the following analytical tests: The TCLP; Fish Bioassay Testing; Semi-volatile Organic Compounds (EPA Method 8270).	Construction	Contractor (implementation) BOR (monitoring)	
3.16 NOISE			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-1a: Construction activities near residential areas would be scheduled between 7:00 AM and 7:00 PM, Monday through Saturday, except for the in-river construction period when construction would occur between 7:00 AM and 10:00 PM. No construction activities shall be schedule for Sundays or other hours and days, as established by the local jurisdiction (e.g. Trinity County).	Construction	Contractor (implementation) BOR (monitoring)	
SF-1b: Specifically with regards to the in-river construction period, the BOR shall include the following noise monitoring requirements in the construction specifications: Noise levels from construction activities may exceed the values shown in **Table 3.16-7** between the hours of 7:00 AM and 7:00 PM, Monday through Saturday. Limits described in **Table 3.16-7** will be imposed on Sundays. Noise monitoring shall be conducted at approved locations. Noise monitors shall be located within 50 feet of affected residences. Microphones should be positioned three to five feet above ground and away from reflective sources. Sound pressure levels shall be measured in decibels	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
with a meter A-weighting network (Unit of measure is dBA; Sound level meter, ANSI A1.4A-1985, Type 1 or Type 2; Use fast response for impulse noise and slow response for other noise measurements). If results of the noise monitoring determine it is necessary, a noise ordinance variance request shall be filed, in coordination with the BOR, to the Trinity County Planning Department noise enforcement officer at P.O. Box 2819, Weaverville, CA 96093. The variance request shall be submitted at 30 days before the variance would be required and include a complete list of measures taken to comply and rationale for why strict compliance is not feasible.			
SF-1c: The BOR shall require in construction specifications that the contractor maintain all construction equipment with manufacturer's specified noise muffling devices.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
SF-1d: The BOR shall require in construction specifications that the contractor place all stationary noise generating equipment as far away as feasibly possible from sensitive noise receptions or in an orientation minimizing noise impacts (i.e., behind existing barriers, storage piles, unused equipment).	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-1a: Construction activities near residential areas would be scheduled between 7:00 AM and 7:00 PM, Monday through Saturday, or other hours and days as established by the local jurisdiction (e.g., Trinity County).	Construction	Contractor (implementation) BOR (monitoring)	
BT-1b: The BOR shall require in construction specifications that the contractor maintain all construction equipment with manufacturer's specified noise muffling devices.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BT-1c: The BOR shall require in construction specifications that the contractor place all stationary noise generating equipment as far away as feasibly	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
possible from sensitive noise receptions or in an orientation minimizing noise impacts (i.e., behind existing barriers, storage piles, unused equipment).		BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-1a: Construction activities near residential areas would be scheduled between 7:00 AM and 7:00 PM, Monday through Saturday, or other hours and days as established by the local jurisdiction (e.g., Trinity County).	Construction	Contractor (implementation) BOR (monitoring)	
PB –1b: The BOR shall require in construction specifications that the contractor maintain all construction equipment with manufacturer's specified noise muffling devices.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
PB –1c: The BOR shall require in construction specifications that the contractor place all stationary noise generating equipment as far away as feasibly possible from sensitive noise receptions or in an orientation minimizing noise impacts (i.e., behind existing barriers, storage piles, unused equipment).	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action, Alternative 1			
BR -1a: Construction activities near residential areas would be scheduled between 7:00 AM and 7:00 PM, Monday through Saturday, or other hours and days as established by the local jurisdiction (e.g., Trinity County).	Construction	Contractor (implementation) BOR (monitoring)	
BR –1b: The BOR shall require in construction specifications that the contractor maintain all construction equipment with manufacturer's specified noise muffling devices.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BR –1c: The BOR shall require in construction specifications that the contractor place all stationary noise generating equipment as far away as feasibly possible from sensitive noise receptions or in an	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
orientation minimizing noise impacts (i.e., behind existing barriers, storage piles, unused equipment).			
3.17 PUBLIC SERVICES AND UTILITIES / ENERGY			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-6a: The BOR shall stipulate in the contract specifications for construction that the contractor must stage construction work and temporary closures in a manner that will allow for emergency service provider access.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
SF-6b: The BOR shall stipulate in the contract specifications that the contractor must provide 72-hour notice to the local emergency providers (i.e., TCSD, CDF, LCSD, Trinity Life Support Ambulance, and STAR) prior to the start of temporary closures.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action			
BT-6a: The BOR shall stipulate in the contract specifications for construction that the contractor must stage construction work and temporary closures in a manner that will allow for emergency service provider access.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BT-6b: The BOR shall stipulate in the contract specifications that the contractor must provide 72-hour notice to the local emergency providers (i.e., TCSD, CDF, LCSD, Trinity Life Support Ambulance, and STAR) prior to the start of temporary closures.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Alternative 1			
No mitigation measures proposed since there were no significant impacts for the Bucktail site, Alternative 1.			
Poker Bar			
Proposed Action, Alternative 1			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
PB-6a: The BOR shall stipulate in the contract specifications for construction that the contractor must stage construction work and temporary closures in a manner that will allow for emergency service provider access.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
PB-6b: The BOR shall stipulate in the contract specifications that the contractor must provide 72-hour notice to the local emergency providers (i.e., TCSD, CDF, LCSD, Trinity Life Support Ambulance, and STAR) prior to the start of temporary closures.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Biggers Road			
Proposed Action, Alternative 1			
BR-6a: The BOR shall stipulate in the contract specifications for construction that the contractor must stage construction work and temporary closures in a manner that will allow for emergency service provider access.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BR-6b: The BOR shall stipulate in the contract specifications that the contractor must provide 72-hour notice to the local emergency providers (i.e., TCSD, CDF, LCSD, Trinity Life Support Ambulance, and STAR) prior to the start of temporary closures.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
3.18 TRANSPORTATION / TRAFFIC CIRCULATION			
Salt Flat			
Proposed Action, Alternative 1, Alternative 2			
SF-3a Construction bid documents will require that access be maintained throughout the construction period for all private residences adjacent to the Project.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
SF-3b During the construction phase of the Project, BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the Project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
SF-4a The BOR shall include provisions in the contract specifications that require the construction contractor to perform a pre-construction survey with Trinity County Department of Transportation officials to determine the existing roadway conditions of Goose Ranch Road which will be used as a construction haul route. An agreement would be entered into prior to construction that would detail the pre-construction conditions and post-construction requirements for potential roadway rehabilitation.	Preconstruction Construction	BOR (bid doc preparation) Contractor and County (implementation) BOR (monitoring)	
SF-4b A post-construction survey of Goose Ranch Road shall be performed with Trinity County Department of Transportation officials to determine if any damage has occurred during construction. If necessary, the BOR shall require the contractor to conduct the required roadway rehabilitation identified in the mutual agreement between the BOR and Trinity County Department of Transportation.	Post construction	Contractor and County (implementation) BOR (monitoring)	
SF-6a The BOR shall include provisions in the contract specifications that require the construction contractor prepare and implement a traffic control plan that would include: provision and maintenance of temporary access through the construction zone, reduction of speed limits though the construction zone, signage and appropriate traffic control devices, illumination during hours of darkness or limited visibility, use of safety clothing/vests to ensure visibility of construction workers by motorists, and fencing as appropriate to separate pedestrians and bicyclists from construction activities.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Bucktail			
Proposed Action, Alternative 1			
BT-3a Construction bid documents will require that access be maintained throughout the construction period for all private residences adjacent to the Project.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BT-3b During the construction phase of the Project,	Construction	Contractor (implementation)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the Project site at the end of each work day.		BOR (monitoring)	
BT-4a The BOR shall include provisions in the contract specifications that require the construction contractor to perform a pre-construction survey with Trinity County Department of Transportation officials to determine the existing roadway conditions of Brown's Mountain Road, which will be used as a construction haul route. An agreement would be entered into prior to construction that would detail the pre-construction conditions and post-construction requirements for potential roadway rehabilitation.	Preconstruction Construction	BOR (bid doc preparation) Contractor and County (implementation) BOR (monitoring)	
BT-4b A post-construction survey of Brown's Mountain. Road shall be performed with Trinity County Department of Transportation officials to determine if any damage has occurred during construction. If necessary, the BOR shall require the contractor to conduct the required roadway rehabilitation identified in the mutual agreement between the BOR and Trinity County Department of Transportation.	Post construction	Contractor and County (implementation) BOR (monitoring)	
BT-6a The BOR shall include provisions in the contract specifications that require the construction contractor prepare and implement a traffic control plan that would include: provision and maintenance of temporary access through the construction zone, reduction of speed limits though the construction zone, signage and appropriate traffic control devices, illumination during hours of darkness or limited visibility, use of safety clothing/vests to ensure visibility of construction workers by motorists, and fencing as appropriate to separate pedestrians and bicyclists from construction activities.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Poker Bar			
Proposed Action, Alternative 1			
PB-3a Construction bid documents will require that access be maintained throughout the construction	Preconstruction	BOR (bid doc preparation)	

Mitigation Measure	Timing/implementation	Responsible Party(ies)	Verification (date and initials)
period for all private residences adjacent to the Project.	Construction	Contractor (implementation) BOR (monitoring)	
PB-3b During the construction phase of the Project, BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the Project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	
PB-4a The BOR shall include provisions in the contract specifications that require the construction contractor to perform a pre-construction survey with Trinity County Department of Transportation officials to determine the existing roadway conditions of Poker Bar and Bridge Road which will be used as a construction haul route. An agreement would be entered into prior to construction that would detail the pre-construction conditions and post-construction requirements for potential roadway rehabilitation.	Preconstruction Construction	BOR (bid doc preparation) Contractor and County (implementation) BOR (monitoring)	
PB-4b A post-construction survey of Poker Bar and Bridge Road shall be performed with Trinity County Department of Transportation officials to determine if any damage has occurred during construction. If necessary, the BOR shall require the contractor to conduct the required roadway rehabilitation identified in the mutual agreement between the BOR and Trinity County Department of Transportation.	Post construction	Contractor and County (implementation) BOR (monitoring)	
PB-6a The BOR shall include provisions in the contract specifications that require the construction contractor prepare and implement a traffic control plan that would include: provision and maintenance of temporary access through the construction zone, reduction of speed limits though the construction zone, signage and appropriate traffic control devices, illumination during hours of darkness or limited visibility, use of safety clothing/vests to ensure visibility of construction workers by motorists, and fencing as appropriate to separate pedestrians and bicyclists from construction activities.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
Biggers Road			

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
Proposed Action, Alternative 1			
BR-3a Construction bid documents will require that access be maintained throughout the construction period for all private residences adjacent to the Project.	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	
BR-3b During the construction phase of the Project, BOR shall limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the Project site at the end of each work day.	Construction	Contractor (implementation) BOR (monitoring)	
BR-4a The BOR shall include provisions in the contract specifications that require the construction contractor to perform a pre-construction survey with Trinity County Department of Transportation officials to determine the existing roadway conditions of Biggers and Steel Bridge Road that will be used as a construction haul route. An agreement would be entered into prior to construction that would detail the pre-construction conditions and post-construction requirements for potential roadway rehabilitation.	Preconstruction Construction	BOR (bid doc preparation) Contractor and County (implementation) BOR (monitoring)	
BR-4b A post-construction survey of Bigger and Steel Bridge Road shall be performed with Trinity County Department of Transportation officials to determine if any damage has occurred during construction. If necessary, the BOR shall require the contractor to conduct the required roadway rehabilitation identified in the mutual agreement between the BOR and Trinity County Department of Transportation.	Post construction	Contractor and County (implementation) BOR (monitoring)	
BR-6a The BOR shall include provisions in the contract specifications that require the construction contractor prepare and implement a traffic control plan that would include: provision and maintenance of temporary access through the construction zone, reduction of speed limits though the construction zone, signage and appropriate traffic control devices, illumination during hours of darkness or limited visibility, use of safety clothing/vests to ensure visibility	Preconstruction Construction	BOR (bid doc preparation) Contractor (implementation) BOR (monitoring)	

Mitigation Measure	Timing/Implementation	Responsible Party(ies)	Verification (date and initials)
of construction workers by motorists, and fencing as appropriate to separate pedestrians and bicyclists from construction activities.			

SUPPLEMENT TO APPENDIX F

Biological Assessment/ Essential Fish Habitat Assessment

TRINITY RIVER BRIDGES PROJECT

Biological Assessment/Essential Fish Habitat Assessment

March 12, 2003

Location:
Trinity County, California
Township 33N, Range 9W, Sections 13, 23, 32, 33, and 34, MDBM
USGS *Weaverville* and *Lewiston* 7.5-Minute Quadrangles

Project Applicant and Lead Agency:
Doug Schleusner, Executive Director
Trinity River Restoration Program
U.S. Department of the Interior – Bureau of Reclamation
P.O. Box 1300
1313 Main Street
Weaverville, CA 96093
Phone: (530) 623-1801
Email: dschleusner@mp.usbr.gov

Co-Lead Agencies:
(Federal)
U.S. Department of Interior – Bureau of Land Management
Redding Field Office
355 Hemsted Lane
Redding, CA 96001

(***California State for CEQA and CESA***)
Trinity County
Planning Department – Natural Resource Division
P.O. Box 156
Hayfork, CA 96041

Applicant's Consultant:
North State Resources, Inc.
5000 Bechelli Lane, Suite 203
Redding, CA 96002
Attn: Keith Marine
Phone: (530) 222-5347 ext. 37
Email: marine@nsrnet.com

Trinity River Restoration Program

P.O. Box 1300, 1313 South Main Street, Weaverville, California 96093
Telephone: 530-623-1800, Fax: 530-623-5944

NC-153
ENV-7.00

April 9, 2003

Ms. Irma V. Lagomarsino
Supervisor, Arcata Field Office
National Oceanic and Atmospheric Administration: Fisheries
1655 Heindon Road
Arcata, California 95521-4573

Subject: Amendment to the Trinity River Bridges Biological Assessment (BA)
(Our Letter Dated March 14, 2003)

Dear Ms. Lagomarsino:

Since sending you our BA on the above subject, we have determined that a change needs to be made to our original project description and associated conservation measures. This change relates only to activities associated with construction of the new Salt Flat Bridge. Descriptions for work at the other bridge sites remain the same.

At the Salt Flat Bridge site we have now determined that we will need to work within the active low-flow channel during the fall and winter of 2003-2004 (outside of the June 15 - October 15 instream work window anticipated in the original BA) in order to complete construction of the new bridge by spring 2004. Given this requirement, we have redesigned the proposed bridge and construction methods to reduce its environmental impacts. We now believe that the revised project, in combination with its conservation measures, will have minimal short-term impacts to threatened coho salmon and Trinity River essential fish habitats. It also provides for more efficient and realistic scheduling of construction activities to ensure that the work will be accomplished in the necessary timeframes. These changes are summarized below.

At Salt Flat, on the left-side of the river, access to a mid-channel island across an existing approximately two foot deep side channel will be necessary as weather allows during the fall and winter of 2003-2004. To ensure that impacts of our infrequent mobilization of equipment to the island are minimal, suggested conservation measures include placement of anti-spawning mats at the proposed channel crossing by early September. Placement of this material would prevent the use of this habitat for spawning salmon and would thereby ensure that any impacts which result from equipment utilization and construction do not affect redds and/or incubating fishes. A second conservation measure to reduce turbidity impacts involves changing the design of the

abutment on the right-side of the river so there will be no excavation within the low-flow active channel as was originally anticipated in the BA. We now propose placement of washed 18 inch rip-rap on top of geotextile fabric mat in the river and on the riverbank. This right-bank work would also be scheduled during the fall and winter of 2003-2004.

Although these efforts to minimize short-term adverse effects of construction activities are substantial, we are still unable to completely eliminate the potential to "take" threatened Trinity River coho salmon. The adverse affects of the project remain localized or temporary in nature. By completing the Salt Flat Bridge according to this schedule, we will be taking a large step towards allowing the higher "wet" and "extremely wet" year flows identified in the Record of Decision and required for movement of sediment and long-term maintenance of the attributes of a functioning alluvial river. For the above reasons, I am requesting that your office evaluate this change in our project as part of the consultation process for Trinity River bridge work.

Your assistance and timeliness to date is greatly appreciated, and it remains essential in completing this project on time. For purposes of full disclosure, we still plan to include our best understanding of probable NOAA Fisheries' Terms and Conditions in the public Draft Trinity River Bridges Environmental Assessment that will be distributed in late April 2003. Your continued assignment of a high priority to this consultation is crucial to ensure that our proposed bridge work is completed as soon as possible, so that changes in the Trinity River flow regime may proceed as court decisions allow in the near future.

These proposed modifications have been discussed by Mike Kelly of your staff and Brandt Gutermuth of the Trinity River Restoration Program. Brandt will continue to provide the necessary information for this consultation. He may be reached at 530-623-1806, or emailed at bgutermuth@mp.usbr.gov.

Thank you for the professional way in which this consultation has progressed to date.

Sincerely,

Douglas P. Schleusner
Executive Director

cc: Mr. Harry Rectenwald
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Mr. Chuck Schultz, Field Office Manager
Bureau of Land Management
355 Hemsted Road
Redding, CA 96002

Mr. Tom Stokely, Principle Planner
Trinity County Natural Resources Department
98A Clinic Ave.
PO Box 156
Hayfork, CA 96041-0156

Trinity River Restoration Program

P.O. Box 1300, 1313 South Main Street, Weaverville, California 96093
Telephone: 530-623-1800, Fax: 530-623-5944

NC-153
ENV-7.00

March 14, 2003

Ms. Irma V. Lagomarsino
Supervisor, Arcata Field Office
National Oceanic and Atmospheric Administration: Fisheries
1655 Heindon Road
Arcata, California 95521-4573

Subject: Biological Assessment on the Effects of the Proposed Rehabilitation of Four Trinity River Bridges on Federally Threatened Southern Oregon/Northern California Coasts (SONCC) Evolutionarily Significant Unit (ESU) Coho Salmon Based on our Enclosed Biological Assessment - Request for Expedited Consultation

Dear Ms. Lagomarsino:

On December 19, 2000, the Secretary of the Interior signed the Record of Decision (ROD) for the Trinity River Mainstem Fishery Restoration Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR). The ROD Preferred Alternative contains seven implementation actions aimed at improving geomorphic characteristics of the mainstem Trinity River and its associated anadromous fish habitat, with the ultimate goal of increasing and restoring anadromous fish populations within the mainstem and its numerous tributaries.

One of the ROD's most significant directives for Trinity River Restoration is implementation of a variable river flow regime which incorporates peak Trinity River releases of 8,500 cubic feet per second (cfs) in wet and 11,000 cfs in extremely wet years. To accommodate these higher flows, three mainstem Trinity River bridges (Salt Flat, Poker Bar, and Biggers Road) need to be replaced and another bridge approach road (Bucktail) needs to be raised. These actions are referred to as "Infrastructure Improvements" in the ROD. The improvement of these bridges will allow the Bureau of Reclamation (Reclamation) to release higher Trinity River flows to provide geomorphic benefits and enhanced fish habitat throughout the river. In the National Marine Fishery Service's (NMFS) 2000 Biological Opinion (BO) for the Trinity River Mainstem Fishery Restoration EIS/EIR, implementation of the proposed restoration program was deemed necessary to protect anadromous fish species and contribute to recovery efforts. Specific to our proposed bridge project, the 2000 BO includes both a Reasonable and Prudent Measure (#3) and a Term and Condition (# 3a) that direct Reclamation to ensure that the proposed bridge modifications are accomplished as soon as possible to allow full implementation of the ROD and its proposed flow schedule.

Within the attached Biological Assessment (BA) for enhancement of these bridges, we describe our proposed actions at each of the four bridge sites in detail, as well as their anticipated impacts to the aquatic environment. In addition, we analyze the proposed action's potential affects on State and federally listed SONCC ESU coho salmon and Essential Fish Habitat for those species regulated under a Federal fisheries management plan. Though specifically developed for the NMFS, it is expected that this BA will also facilitate our general discussion of project impacts during the California Endangered Species Act incidental take permit process, if warranted.

In the attached BA, we propose incorporation of the following conservation measures to minimize or avoid direct impacts to SONCC ESU coho salmon and the aquatic environment during renovation of the Trinity River Bridges: (1) Restriction of in-river construction activities from June 15 to October 15, 2003, and from June 15 to September 15, 2004 (generally outside of the adult coho migration and spawning period at this upstream location). This is also after coho alevins have left the gravel and after conclusion of the smolt emigration season; (2) Avoidance of instream construction work at all but one bridge site; and (3) Reduction of the number of bridge supports located within the ordinary high-water channel, which will increase available riverine fisheries habitat. In the long-term, replacement of these bridges will improve the overall ability of the Trinity River Division to provide fish habitat restoration flows, increasing the potential to recover SONCC ESU coho salmon without impacting public safety and recreational benefits along the Trinity River, as prescribed in the 2000 BO.

Although every effort will be taken to minimize short-term adverse effects of construction activities, we cannot eliminate our potential to "take" threatened Trinity River coho salmon. The work at Salt Flat Bridge will require some limited in-water construction during the first year of work, early in the adult coho migration season, which may result in temporary and localized effects on fish migration. Juvenile coho salmon are known to rear near each bridge site and in-stream construction and demolition work at the three bridges being replaced may result in direct injury or temporary disruption of social behavior that may increase vulnerability to predation and competition. Additionally, about 100 lineal feet of rearing habitat, within designated critical habitat, will be altered by necessary riprap bridge abutment protection at the right abutment of the new Salt Flat Bridge. Though we believe that these adverse effects are localized or temporary in nature, and are more than compensated by the long-term benefits that would accrue through implementation of the Proposed Action, we have determined that for the purposes of the BA, the proposed Trinity River Bridges Project may potentially affect listed coho and that our overall project is "likely to adversely affect" listed coho salmon.

We now request that NOAA Fisheries initiate formal consultation on this project. Because of the critical role of this project in Trinity River restoration and the extremely tight timeframe we face to initiate construction within the June 15 to October 15, 2003 timeframe, we request an expedited consultation on this proposed project. Your assignment of a high priority to this consultation will help to ensure that our proposed bridge work is completed as soon as possible, so that changes in the Trinity River flow regime may proceed as court decisions allow in the near future. From a legal standpoint, in order to provide full disclosure, we also deem it prudent to incorporate Draft Terms and Conditions of the developing Trinity River Bridges BO into our own Draft Trinity River Bridges Environmental Assessment that will be distributed in mid-April 2003.

We look forward to working closely with members of your staff to ensure timely and correct implementation of this critical project. Please direct any questions to Brandt Gutermuth, our Environmental Specialist, for the coordination necessary to complete this consultation. He may be reached by telephone at 530-623-1806, or email at bgutermuth@mp.usbr.gov.

Sincerely,

Douglas Schleusner
Executive Director

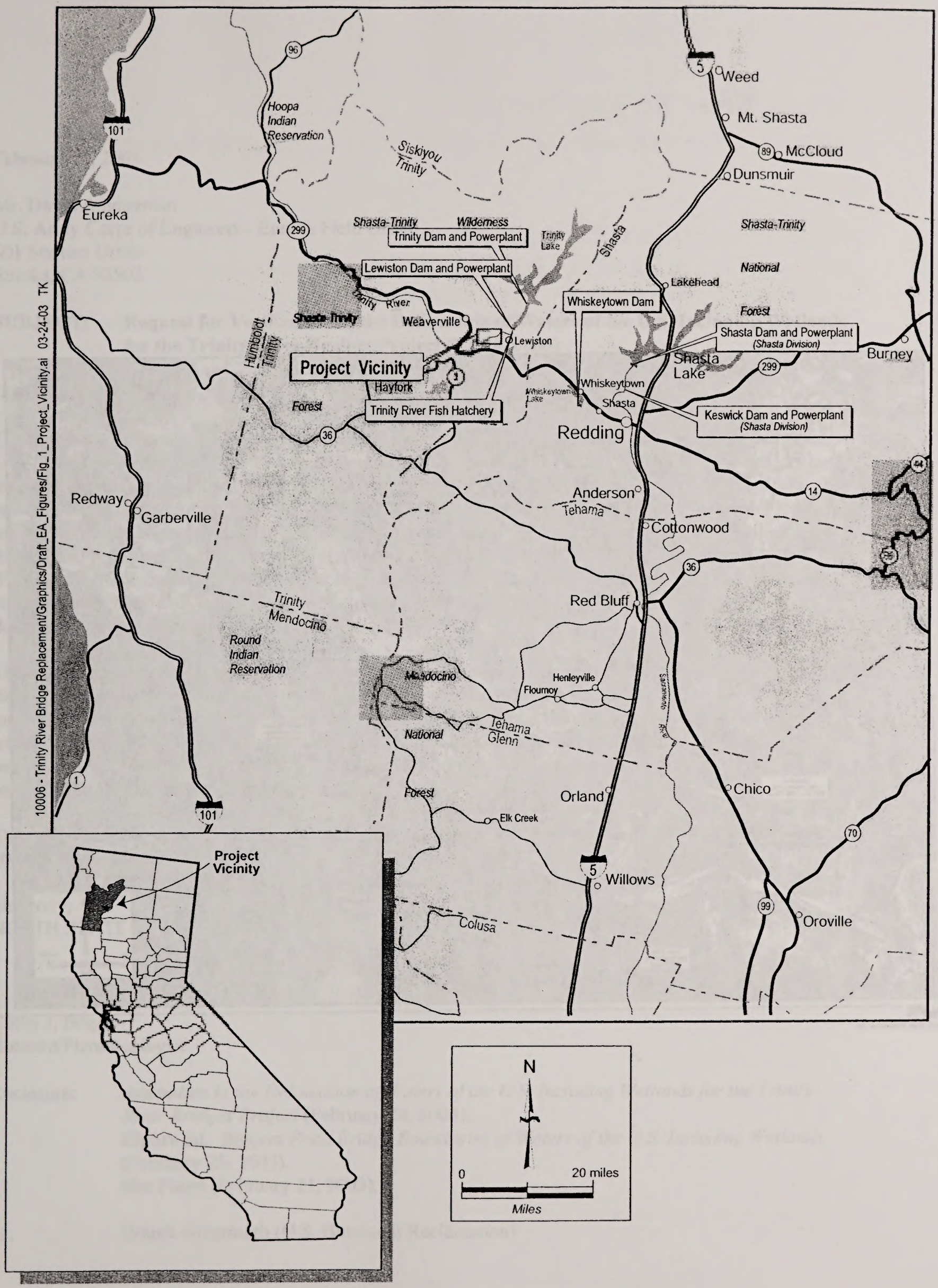
Enclosure

cc: Mr. Harry Rectenwald
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Mr. Chuck Schultz, Field Office Manager
Bureau of Land Management
355 Hemsted Road
Redding, CA 96002

Mr. Tom Stokely, Principle Planner
Trinity County Natural Resources Department
98A Clinic Ave.
PO Box 156
Hayfork, CA 96041-0156
(each w/encl)

Delineation of Waters of the U.S., Including Wetlands and ACOE Verification Letter

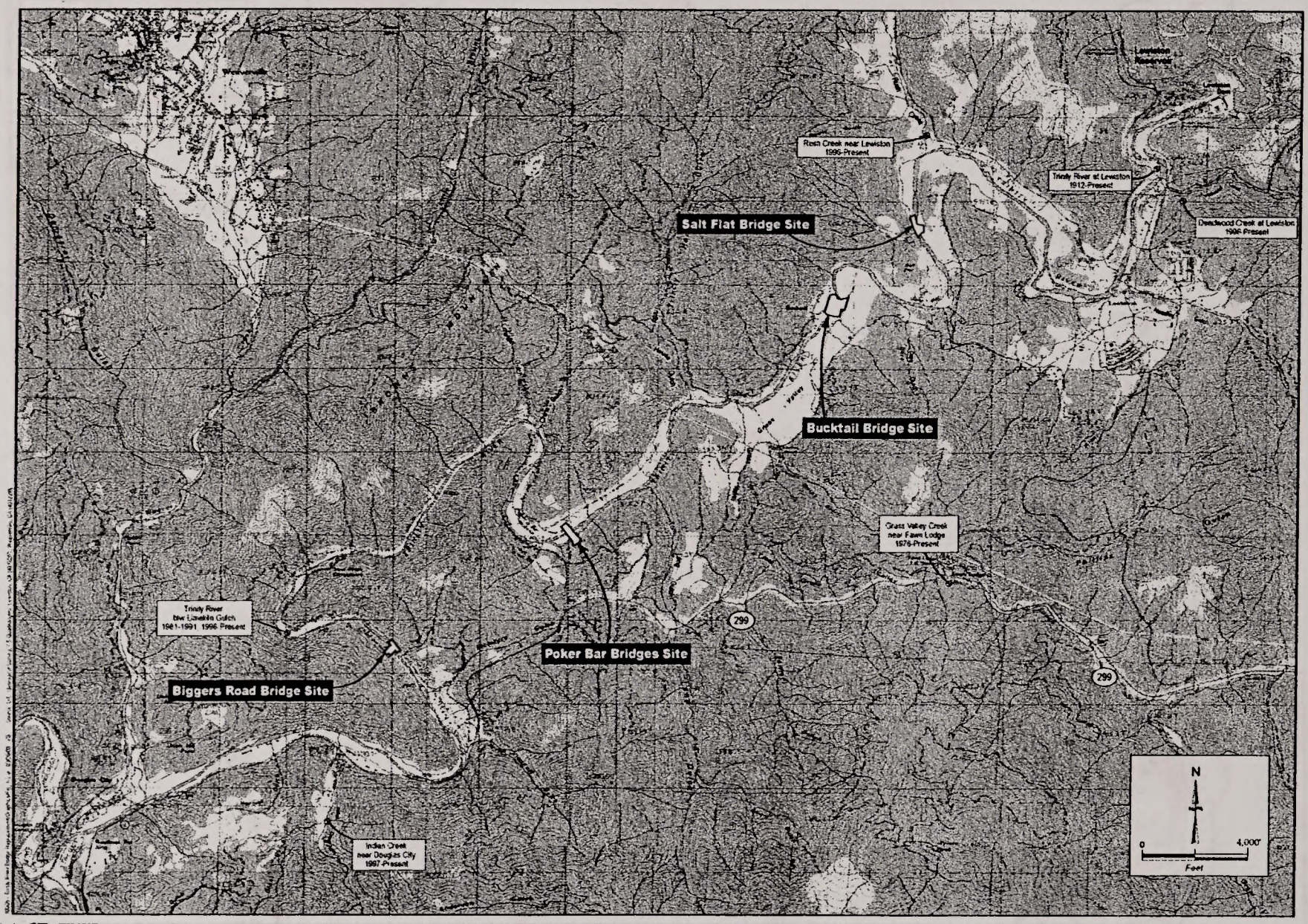


10006 - Trinity River Bridge Replacement/Graphics/Draft_EA_Figures/Fig_1_Project_Vicinity.ai 03-24-03 TK

North State Resources, Inc.

Trinity River Bridges Project

Figure 1
Project Vicinity



North State Resources, Inc.

Trinity River Bridges Project

Figure 2
Project Location

February 28, 2003

Mr. David Ammerman
U.S. Army Corps of Engineers - Eureka Field Office
601 Startare Drive
Eureka, CA 95502

SUBJECT: Request for Verification of the Delineation of Waters of the U.S. Including Wetlands for the Trinity River Bridges Project (NSR#10006)

Dear Mr. Ammerman:

Thank you for your recent visit to verify the wetland maps included in the *Delineation of Waters of the U.S. Including Wetlands for the Trinity River Bridges Project* (February, 2003). North State Resources, Inc. (NSR) presents additional wetlands data for the Trinity River Bridges Project. Specifically, NSR presents the documentation for the wetland feature identified within the expanded environmental study limit (ESL) at the Biggers Road Bridge replacement site. A brief discussion and revised quantification of the wetland resources for the referenced site are included in the attached *Addendum to Delineation of Waters of the U.S. Including Wetlands for the Trinity River Bridges Project* (February 28, 2003). By this letter, NSR requests U.S. Army Corps of Engineers provide written verification of the enclosed delineation of jurisdictional waters for the project site.

The delineation was prepared by NSR in accordance with the methods prescribed in the *Corps of Engineers Wetlands Delineation Manual,* dated 1987, and identified an additional 0.01 acres of jurisdictional waters occurring as riparian wetland habitat for a total of 0.66 acres of riparian wetland habitat at the Biggers Road Bridge replacement site. NSR considers the attached documentation sufficient to support desktop verification, but if this is not possible, please contact me at your earliest convenience to schedule another site visit.

Thank you for your patience and consideration in this matter. Please contact me at (530) 222-5347 ext. 20 with any questions.

Sincerely,
NORTH STATE RESOURCES, Inc.

Colby J. Boggs
Botanist/Plant Ecologist

Enclosure: *Addendum to the Delineation of Waters of the U.S. Including Wetlands for the Trinity River Bridges Project* (February 28, 2003).
Figure 3d. *Biggers Road Bridge Boundaries of Waters of the U.S. Including Wetlands* (February 25, 2003).
Site Photo (February 21, 2003).

cc. Brandt Gutermuth (U.S. Bureau of Reclamation)

Trinity River Bridges Project

Addendum to Delineation of Waters of the U.S. Including Wetlands

Biggers Road Bridge Replacement Site

On February 21, 2003 North State Resources, Inc. conducted a wetlands investigation within the expanded environmental study limit at the Biggers Road Bridge replacement site in Trinity County, California. The wetland delineation followed the U.S. Army Corps of Engineers methodology (Environmental Laboratory 1987) and identified additional riparian wetland habitat on the site. This habitat represents an extension of the previously documented riparian wetland feature and, therefore, **Table 2D** was not revised. Additional waters of the U.S., including wetlands, observed on the site consist of 0.01 acres of riparian wetland habitat for a total of 1.75 acres of jurisdictional waters of the U.S. Revised wetland acreages for the site, broken down by wetland type, are presented in **Table 3D**. This delineation of waters of the United States, including wetlands is depicted on the revised **Figure 3d**.

TABLE 2D
CHARACTERISTICS OF THE WETLAND TYPES ON THE BIGGERS ROAD BRIDGE REPLACEMENT SITE

Jurisdictional Waters Type	Wetland Vegetation Indicators Typical Dominant Wetland Plant Species			Hydric Soils Indicators	Hydrology Indicators
	Common Name	Scientific Name	Indicator Status		
Riparian Wetland (Montane Riparian)	Narrow-leafed willow	*Salix exigua*	OBL	Gleyed or low chroma colors, listed on hydric soils list, frequent flooding.	Drift lines, FAC-neutral test.
	Arroyo willow	*Salix lasiolepis*	FACW		
	White alder	*Alnus rhombifolia*	FACW		
	Himalayan blackberry	*Rubus discolor*	FACW*		
	California wild grape	*Vitis californica*	FACW		
	Torrent sedge	*Carex nudata*	FACW		
	Common velvet grass	*Holcus lanatus*	FAC		

TABLE 3D
ACREAGES OF WATERS OF THE U.S. – BIGGERS ROAD

Wetland Type	Total Acreage
Total Wetlands	
Riparian Wetlands	0.66
Total Wetlands	**0.66**
Other Waters	
Trinity River (Riverine)	1.09
Total Other Waters	1.09
Total Jurisdictional Waters	**1.75**

Trinity River Bridges Project

Site Photo

Photograph taken on February 21, 2003

Photo A: View of riparian wetland feature on the Biggers Road Bridge replacement site.

North State Resources, Inc.

This delineation of waters of the United States, including wetlands, is subject to verification by the U.S. Army Corps of Engineers (ACOE). NSR advises all parties to treat the information contained herein as preliminary until the ACOE provides written verification of the boundaries of their jurisdiction.

Figure 3d. Boundaries of Waters of the U.S. (including Wetlands)
Biggers Road Bridge, Trinity River Bridges Project
Feb. 25, 2003

APPENDIX A

Data Forms and Soil Map Unit Figure

DATA FORM: ROUTINE WETLAND DETERMINATION

Comm. ID: Riparian Wetland Plot ID: 1

Project/Site: Salt Flat
Applicant/Owner: Bureau of Reclamation
Investigator: A. Pitts, C. Boggs

Date: July 16 2002
County: Trinity
State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rhombifolia		T	FACW
2. Salix lucida		S	OBL
3. Salix exigua		S	NI
4. Rubus discolor		S	FACW
5. Cyperus odoratus		H	FACW
6. Mentha pulegium		H	OBL
7. Eleocharis macrostachys		H	OBL
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 6/7 = 85%

Remarks: Sufficient wetland veg
FAC-Neutral = 4/7 = pass

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks)
  - ☐ steam, lake, or tide gauge
  - ☒ aerial photographs
  - ☐ other
- ☐ No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: >12" (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
☐ inundated	☐ oxidized root channels in upper 12"
☐ saturated in upper 12 "	☐ water-stained leaves
☐ water marks	☐ local soil survey data
☒ drift lines	☒ FAC-neutral test
☐ sediment deposits	☒ other (explain in remarks)
☒ drainage patterns in wetlands	Algal matting

Remarks: Sufficient wetland hydrology indicators

SOILS

Map Unit Name (Series and Phase): 102: Aiken Dumps, Dredge Tailings - Xerofluvents complex, 2-9% slopes
Taxonomy (Subgroup): Typic Xerorthents
Hydric Status on SCS Field Office List: Hydric Component + Inclusions

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"		10YR 3/3	—	—	sandy, gravelly

Remarks: Sufficient hydric soils indicators.

Hydric Soil Indicators:
- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☐ Gleyed or low-chroma colors
- ☐ Positive alpha-alpha dipyridyl test
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soil
- ☐ Organic streaking in sandy soils
- ☒ Listed on local hydric soils list
- ☐ Listed on national hydric soils list
- ☐ Other

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N
Wetland Hydrology Present? (Y) or N
Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Riparian wetland, Photos 1,2 Salt Flat

DATA FORM: ROUTINE WETLAND DETERMINATION

Comm. ID: Upland Pair to 1 Plot ID: 2

Project/Site: Salt Flat
Applicant/Owner: Bureau of Reclamation
Investigator: A. Pitts, C. Boggs

Date: July 16 2002
County: Trinity
State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Rubus discolor	—	S	FACW*
2. Hypochaeris glabra	—	H	UPL
3. Trifolium arvense	—	H	UPL
4. Plantago lanceolata	—	H	FAC-
5. Bromus hordeaceus	—	H	FACU-
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 1/5 = 20%

Remarks: Insufficient hydrophytic vegetation. FAC Neutral = 1/4 = Fail

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
☐ inundated	☐ oxidized root channels in upper 12"
☐ saturated in upper 12 "	☐ water-stained leaves
☐ water marks	☐ local soil survey data
☐ drift lines	☐ FAC-neutral test
☐ sediment deposits	☐ other (explain in remarks)
☐ drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology indicators

SOILS

Map Unit Name (Series and Phase): 102- Alter Dumps, Dredge tailings - Xerofluvents complex 2 to 8% slopes
Taxonomy (Subgroup): Typic Xerorthents
Hydric Status on SCS Field Office List: Hydric Component + Inclusions

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"		10YR 3/3	—	—	Sandy gravelly

Remarks: Sufficient hydric soils indicators

Hydric Soil Indicators:
- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☐ Gleyed or low-chroma colors
- ☐ Positive alpha-alpha dipyridyl test
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soil
- ☐ Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- ☐ Listed on national hydric soils list
- ☐ Other

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair to #1, Photo 2

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Wet Meadow | Plot ID: 3

Project/Site: Salt Flat | Date: July 16 2002
Applicant/Owner: Bureau of Reclamation | County: Trinity
Investigator: A. Pitts, C. Boggs | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Carex barbarae	—	H	FACW
2. Cotula coronopifolia	—	H	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC: 2/2 = 100%

Remarks: Sufficient hydrophytic vegetation.

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: — (in.)
Depth of Free Water in Pit: — (in.)
Depth of Saturated Soil: — (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
[ ] inundated	[ ] oxidized root channels in upper 12"
[ ] saturated in upper 12"	[x] water-stained leaves
[ ] water marks	[ ] local soil survey data
[ ] drift lines	[x] FAC-neutral test
[ ] sediment deposits	[ ] other (explain in remarks)
[x] drainage patterns in wetlands	

Remarks: Sufficient wetland hydrology.

SOILS

Map Unit Name (Series and Phase): 102-Alter Dumps, dredge tailings-xerofluvents complex, 2-9% slopes
Taxonomy (Subgroup): Typic Xerorthents
Hydric Status on SCS Field Office List: Hydric Component + Inclusions
Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-5"	—	10YR 3/2	—	—	Sandy.

Hydric Soil Indicators:
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic odor
- [ ] Aquic moisture regime
- [ ] Reducing conditions
- [x] Gleyed or low-chroma colors
- [ ] Positive alpha-alpha dipyridyl test
- [ ] Concretions
- [ ] High organic content in surface layer in sandy soil
- [ ] Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- [ ] Listed on national hydric soils list
- [ ] Other

Remarks: Sufficient hydric soils indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Seasonal wet meadow Photo 3

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland pair to 3 | Plot ID: 4

Project/Site: Salt Flat | Date: July 16 2002
Applicant/Owner: Bureau of Reclamation | County: Trinity
Investigator: A. Pitts, C. Boggs | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Centaurea solstitialis	—	H	UPL
2. Bromus diandrus	—	H	FACU*
3. Elymus glaucus	—	H	FACU
4. Eriogonum vimineum	—	H	UPL
5.			
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 0/4 = 0%

Remarks: Insufficient hydrophytic vegetation.

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks)
  - ☐ steam, lake, or tide gauge
  - ☒ aerial photographs
  - ☐ other
- ☐ No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
☐ inundated	☐ oxidized root channels in upper 12"
☐ saturated in upper 12 "	☐ water-stained leaves
☐ water marks	☐ local soil survey data
☐ drift lines	☐ FAC-neutral test
☐ sediment deposits	☐ other (explain in remarks)
☐ drainage patterns in wetlands	

Remarks: Insufficient Wetland hydrology Indicators
Fac-Neutral = 0/4 = Fail

SOILS

Map Unit Name (Series and Phase): 102-Atter Pumps, Dredge Tailings-Xerofluvents complex 2-9% Slopes — Type Inclusions
Taxonomy (Subgroup): —
Hydric Status on SCS Field Office List: Hydric Component & Inclusions

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"		10YR 3/3	—	—	Sandy, gravelly

Remarks: Sufficient hydric soils Indicators

Hydric Soil Indicators:
- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☐ Gleyed or low-chroma colors
- ☐ Positive alpha-alpha dipyridyl test
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soil
- ☐ Organic streaking in sandy soils
- ☒ Listed on local hydric soils list
- ☐ Listed on national hydric soils list
- ☐ Other

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair #3 Photo 4.

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Riparian Wetland Plot ID: 5

Project/Site: Salt Flat
Applicant/Owner: BOR
Investigator: A. Pitts, C. Boggs

Date: July 16 2002
County: Trinity
State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rhombifolia	—	T	FACW
2. Populus balsamifera	—	T	FACW
3. Salix exigua	—	S	OBL
4. Salix lasiolepis	—	S	FACW
5. Rubus discolor	—	S	FACW
6. Equisetum laevigatum	—	H	FACW
7. Juncus effusus	—	H	OBL
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 7/7 = 100%

Remarks: Sufficient hydrophytic vegetation.
FAC-Normal = 7/7

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: to surface (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
[ ] inundated	[ ] oxidized root channels in upper 12"
[x] saturated in upper 12"	[ ] water-stained leaves
[ ] water marks	[ ] local soil survey data
[x] drift lines	[x] FAC-neutral test
[ ] sediment deposits	[ ] other (explain in remarks)
[ ] drainage patterns in wetlands	

Remarks: Sufficient wetland hydrology indicators

SOILS

Map Unit Name (Series and Phase): 217 Xerofluvents-Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components.

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"		10YR 3/2	—	—	Sandy, gravelly

Remarks: Sufficient hydric soils indicators

Hydric Soil Indicators:
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic odor
- [ ] Aquic moisture regime
- [ ] Reducing conditions
- [x] Gleyed or low-chroma colors
- [ ] Positive alpha-alpha dipyridyl test
- [ ] Concretions
- [ ] High organic content in surface layer in sandy soil
- [ ] Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- [ ] Listed on national hydric soils list
- [ ] Other

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or N

Remarks: Riparian wetland Photo 5

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland pair to 5 | Plot ID: 6

Project/Site: Salt Flat | Date: July 16 2002
Applicant/Owner: BOR | County: Trinity
Investigator: A. Pitts, C. Boggs | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Brassica nigra	—	H	UPL
2. Heterotheca	—	H	UPL
3. Centaurea solstitialis	—	H	UPL
4. Trifolium hirtum	—	H	UPL
5. Hypochaeris glabra	—	H	UPL
6. Plantago lanceolata	—	H	FAC-
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 0/6 = 0%

Remarks: Insufficient hydrophytic vegetation

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
[ ] inundated	[ ] oxidized root channels in upper 12"
[ ] saturated in upper 12 "	[ ] water-stained leaves
[ ] water marks	[ ] local soil survey data
[ ] drift lines	[ ] FAC-neutral test
[ ] sediment deposits	[ ] other (explain in remarks)
[ ] drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology.

SOILS

Map Unit Name (Series and Phase): 217-Xerofluvents-Riverwash Complex, 0-5% Slope
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components
Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"	—	10yR 3/2	—	—	gravelly sand

Remarks: Sufficient hydric soils indicators

Hydric Soil Indicators:
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic odor
- [ ] Aquic moisture regime
- [ ] Reducing conditions
- [x] Gleyed or low-chroma colors
- [ ] Positive alpha-alpha dipyridyl test
- [ ] Concretions
- [ ] High organic content in surface layer in sandy soil
- [ ] Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- [ ] Listed on national hydric soils list
- [ ] Other

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair to 5 Photo 6

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Riparian Wetland | Plot ID: 7

Project/Site: Salt Flat | Date: July 16 2002
Applicant/Owner: BOR | County: Trinity
Investigator: A. Pitts, C. Boggs | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rhombifolia	—	T	FACW
2. Salix lasiolepis	—	S	FACW
3. Rubus ursinus	—	S	FACW
4. Fraxinus latifolia	—	T	FACW
5.			
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 4/4 = 100%

Remarks: Sufficient hydrophytic veg. FAC-Neutral = 4/4

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: _____ (in.)
Depth of Saturated Soil: _____ (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
[ ] inundated	[ ] oxidized root channels in upper 12"
[ ] saturated in upper 12 "	[x] water-stained leaves
[ ] water marks	[ ] local soil survey data
[x] drift lines	[x] FAC-neutral test
[ ] sediment deposits	[ ] other (explain in remarks)
[ ] drainage patterns in wetlands	

Remarks: Sufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217 Xerofluvents-Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hyric Components

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"		10yR 4/2	—	—	Sandy

Remarks: Sufficient hydric soils Indicators

Hydric Soil Indicators:
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic odor
- [ ] Aquic moisture regime
- [ ] Reducing conditions
- [x] Gleyed or low-chroma colors
- [ ] Positive alpha-alpha dipyridyl test
- [ ] Concretions
- [ ] High organic content in surface layer in sandy soil
- [ ] Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- [ ] Listed on national hydric soils list
- [ ] Other _____

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Riparian Wetland Photo-7

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland pts 1 to 7 | Plot ID: 8

Project/Site: Salt Flat | Date: July 16 2002
Applicant/Owner: BOR | County: Trinity
Investigator: A. Pitts, C. Boggs | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Pinus ponderosa	—	T	UPL
2. Hypochaeris radicata	—	H	UPL
3. Bromus diandrus	—	H	UPL
4. Holcus lanatus	—	H	FAC
5. Bromus hordeaceus	—	H	UPL
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 1/5 = 20%

Remarks: Insufficient hydrophytic veg.

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
[ ] inundated	[ ] oxidized root channels in upper 12"
[ ] saturated in upper 12"	[ ] water-stained leaves
[ ] water marks	[ ] local soil survey data
[ ] drift lines	[x] FAC-neutral test
[ ] sediment deposits	[ ] other (explain in remarks)
[ ] drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217 Xerofluvents - Riverwash Complex, 0-5% slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components
Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12		10YR 4/2	—	—	Sandy, gravelly

Hydric Soil Indicators:
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic odor
- [ ] Aquic moisture regime
- [ ] Reducing conditions
- [x] Gleyed or low-chroma colors
- [ ] Positive alpha-alpha dipyridyl test
- [ ] Concretions
- [ ] High organic content in surface layer in sandy soil
- [ ] Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- [ ] Listed on national hydric soils list
- [ ] Other

Remarks: Sufficient hydric soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pts 1 to 7 Photo 8

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Riparian Wetland | Plot ID: 1

Project/Site: Trinity River Bridges - Bucktail | Date: June 7/21 2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts, P. Kirk | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Salix exigua		S	OBL
2. Typha latifolia		H	OBL
3. Equisetum laevigatum		H	FACW
4. Holcus lanatus		H	FAC
5. Rubus discolor		S	FACW*
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 5/5 = 100%

Remarks: Sufficient hydrophytic vegetation.
FAC-Neutral = 4/4 = Pass

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12"	water-stained leaves
water marks	local soil survey data
X drift lines	X FAC-neutral test
sediment deposits	other (explain in remarks)
X drainage patterns in wetlands	

Remarks: Sufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217-Xerofluvents-River Wash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0 - 4		10YR 3/2	-	-	Sandy
4 - 12		10YR 3/2	-	-	Sandy, gravel

Remarks: Sufficient hydric Soils Indicators

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Riparian Wetland Photo 1

Project/Site: Trinity River Bridges – Buckhail Date: ~~June~~ 7/23 2002
Applicant/Owner: US Bureau of Reclamation County: Trinity
Investigator: A. Pitts, P. Rink State: California

Do normal circumstances exist on the site? Y or N
Is the site significantly disturbed (atypical situation)? Y or N
Is the area a potential problem area. Y or N
Explain: _____

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rrombifolia		T	FACW
2. Centaurea solstitialis		H	UPL
3. Trifolium hirtum		H	UPL
4. Hypochaeris glabra		H	UPL
5. (Cats ear)			
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 1/4 = 25 %

Remarks: Insufficient Wetland Vegetation
FAC-Neutral = 1/4 = Fail

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217-Xerofluvents-Riverwash Complex, 0-5% Slope
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components
Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"		10yR 3/1	—	—	Sandy

Remarks: Sufficient hydric Soils Indicators

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other _____

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks:
Upland Pair to 3 Photo 2

Project/Site: Trinity River Bridges - Buckhail Date: ~~June~~ 7/24/2002
Applicant/Owner: US Bureau of Reclamation County: Trinity
Investigator: A. Pitts State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain: _____

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Salix exigua		T	OBL
2. Salix laevigata		T	UPL
3. Rubus discolor		S	FACW*
4. Vitis californica		S	FACW
5. Holcus lanatus		H	FAC
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 4/5.

Remarks: Sufficient Hydrophytic Vegetation-
FAC-Neutral = 3/4 = Pass.

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: 8" (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
X saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	X FAC-neutral test
sediment deposits	other (explain in remarks)
X drainage patterns in wetlands	

Remarks: Sufficient hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 102-Alter Dumps, Dredge Tailings-Xerofluvents Comp
Taxonomy (Subgroup): 2-9% Slopes - Typic Xerofluvents
Hydric Status on SCS Field Office List: Hydric Component 1 Inclusions

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"	A	10YR 2/1	—	—	Sandy

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other _____

Remarks: Sufficient hydric Soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Riparian Wetland. Photo 3

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland Pair to 3 | Plot ID: 4

Project/Site: Trinity River Bridges - Buckhall | Date: ~~June~~ 7/24/2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Pinus ponderosa		T	UPL
2. Rhus trilobata		S	NI
3. Centaurea solstitialis		H	UPL
4. Blue Rye		H	UPL
5. Anthoxanthum odoratum		H	UPL
6. Bromus rubens		H	NI
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 0/6

Remarks: Insufficient hydrophytic Vegetation
FAC-Neutral = 0/6

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other
- No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 102
Taxonomy (Subgroup):
Hydric Status on SCS Field Office List:

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"	A	10YR 3/2	-	-	Gravelly Sand

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other

Remarks: Sufficient hydric Soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair to 3 Photo 4

DATA FORM: ROUTINE WETLAND DETERMINATION

Comm. ID: Riparian Wet meadow Plot ID: 5

Project/Site: Trinity River Bridges - Blacktail Date: ~~June~~ 7/24 2002
Applicant/Owner: US Bureau of Reclamation County: Trinity
Investigator: A. Pitts State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: _____

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rhombifolia		T	FACW
2. Big Carex (Scirpus microcarpus)		H	OBL
3. Deschampsia cespitosa		H	FACW
4. Holcus lanatus		H	FAC
5. Equisetum laevigatum		H	FACW
6. Pinus ponderosa		T	FACU
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 4/5 or 5/6 or 4/6

Remarks: Sufficient hydrophytic vegetation.

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: To surface (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
X saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	X FAC-neutral test
sediment deposits	other (explain in remarks)
X drainage patterns in wetlands	

Remarks: Sufficient hydrology indicators

SOILS

Map Unit Name (Series and Phase): 217 - Xerofluvents-Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components.

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"	A	10YR 3/1	—	—	Sandy

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other _____

Remarks: Sufficient hydric Soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Riparian wet meadow. Photo 5

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland | Plot ID: 6

Project/Site: Trinity River Bridges - Buckrail | Date: June 7/24 2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: _____

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Bromus rubens		H	NI
2. Trifolium hirtum		H	UPL
3. Centaurea Solstitialis		H	UPL
4. Hypochaeris radicata (dandelion Thing)		H	UPL
5.			
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 0/4

Remarks: Insufficient Wetland vegetation (Rest of upland area is mowed by owner veg. undistinguishable)

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217 Xerofluvents-Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-6"	—	10yr 3/3	—	—	Sandy Gravel

Remarks: Sufficient hydric Soils Indicators

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other _____

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Point to DP 5 Photo 6

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Wet meadow | Plot ID: 7

Project/Site: Trinity River Bridges - Bucktail
Applicant/Owner: US Bureau of Reclamation
Investigator: A. Pitts

Date: June 7/24 2002
County: Trinity
State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: _____

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Salix exigua		T	OBL
2. Salix laevigata		T	OBL
3. Rubus discolor		S	FACW*
4. Deschampsia cespitosa		H	FACW
5. Holcus lanatus		H	FAC
6. Equisetum arvense laevigatum		H	FAC
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 5/6

Remarks: Sufficient hydrophytic vegetation
FAC-Neutral = 3/4 = Pass

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other
- No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: 11" (eleven) (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
X saturated in upper 12"	water-stained leaves
water marks	local soil survey data
X drift lines	X FAC-neutral test
sediment deposits	other (explain in remarks)
X drainage patterns in wetlands	

Remarks: Sufficient hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 102 Alluvial Pumps, Dredge Tailings - Xeroflivents Complex
Taxonomy (Subgroup): 2-9% Slopes Typic Xerofluvents
Hydric Status on SCS Field Office List: Hydric Component + Inclusions

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"	—	10YR 3/1	—	—	Sandy

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other _____

Remarks: Sufficient Hydric Soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N
Wetland Hydrology Present? (Y) or N
Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Seasonal Wet Meadow

Photo 7

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland Pair to 7 | Plot ID: 8

Project/Site: Trinity River Bridges - Buckrail | Date: ~~June~~ 7/24 2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Trifolium hirtum		H	UPL
2. Hypochaeris radicata		H	UPL
3. Centaurea solstitialis		H	UPL
4. Pinus ponderosa		T	FACU
5.			
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC: 0/4

Remarks: Insufficient hydrophytic vegetation
FAC-Neutral = 0/4

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 102 - Arter Dumps, Dredge Tailings - Xerofluvents Complex
Taxonomy (Subgroup): 2-9% Slopes Typic Xerorthents
Hydric Status on SCS Field Office List: Hydric Component + Inclusions.

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-10"	—	10YR 3/3	—	—	gravelly Sand

Remarks: Sufficient hydric soils Indicators

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or N | Wetland Hydrology Present? Y or (N) | Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair to Data Point 7 Photo 8

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Emergent W.L | Plot ID: 9

Project/Site: Trinity River Bridges - Bucktail | Date: ~~June~~ 7/24 2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Typha angustifolia	—	H	OBL
2. Salix exigua		T	OBL
3. Salix laevigata		T	UPL
4. Alnus rhombifolia		T	FACW
5. Scirpus microcarpus		H	OBL
6. Rubus discolor		S	FACW*
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 4/5 or 5/6 or 4/6

Remarks: Sufficient hydrophytic vegetation.

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: 7.6" (in.)
- Depth of Free Water in Pit: 3" (in.)
- Depth of Saturated Soil: To Surface (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
X inundated	X oxidized root channels in upper 12"
X saturated in upper 12"	water-stained leaves
water marks	local soil survey data
X drift lines	X FAC-neutral test
sediment deposits	other (explain in remarks)
X drainage patterns in wetlands	

Remarks: Sufficient Wetland hydrology indicators

SOILS

Map Unit Name (Series and Phase): 217 Xerofluvents Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0 - 12"		N3/0	10YR 3/4	uncommon	Sandy

Remarks: Sufficient hydric soils indicators

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- X Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Emergent wetland within Riparian Wetland. Photo 9

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland | Plot ID: 10

Project/Site: Trinity River Bridges - Bucktail | Date: ~~June~~ 7/24/2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Centaurea solstitialis		H	UPL
2. Trifolium hirtum		H	UPL
3. Polypogon monspeliensis		H	FACW*
4. Hypochaeris radicata		H	UPL
5. Lingria genistifolia dalmatica		H	UPL
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 1/5

Remarks: Insufficient hydrophytic veg. FAC-Neutral < 1/5.

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other

No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Insufficient hydric Soils Indicators

SOILS

Map Unit Name (Series and Phase): 717-Xerofluvents-Riverwash Complex, 0-5% slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components
Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-6"	-	10yR 3/2	-	-	Sandy Gravel

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other

Remarks: Sufficient hydric Soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair to 9 Photo 10

DATA FORM: ROUTINE WETLAND DETERMINATION

Comm. ID: Riparian Wetland Plot ID: 1

Project/Site: Trinity River Bridges - Poker Bar Date: ~~June~~ 7/23 2002
Applicant/Owner: US Bureau of Reclamation County: Trinity
Investigator: A. Pitts, P. Kirk State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rhombifolia		T	FACW
2. Salix exigua		T	OBL
3. Rubus discolor		S	FACW*
4. Juncus effusus (Spike Rush)		H	OBL
5. Artemesia douglasiana (mugwort)		H	FACW
6. Scirpus microcarpus		H	
7. Scirpus microcarpus.			OBL
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 5/5 = 100%

Remarks: Sufficient wetland vegetation
FAC-Neutral = 5/5 = Pass

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other
- No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
X drift lines	X FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Sufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): Xerofluvents-Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"		10yR 3/1	—	—	Gravelly Loam

Remarks: Sufficient hydric soils Indicators

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? (Y) or N

Remarks: Riparian wetland Representative of Riparian community Poker Bar Site Plot 1.

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland Pair to 1 | Plot ID: 2

Project/Site: Trinity River Bridges – Poker Bar | Date: ~~June~~ 7/23 2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts, P Kirk | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)
Explain: _____

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Pinus ponderosa		T	UPL
2. Ulmus pumilla		T	UPL
3. Rubus discolor		S	FACW*
4. Centaurea solstitialis		H	UPL
5. Linaria genisticulata		H	UPL
6. Trifolium hirtum		H	UPL
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 1/6

Remarks: Insufficient wetland vegetation
FAC-Neutral = 1/6 = Fail

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other
- No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: — (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217-Xerofluvent-Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-6"		pyr 3/2	—	—	Gravelly Loam

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other _____

Remarks:
Very gravelly - difficult to dig deeper than 6"

→ Sufficient hydric soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair to # 1 – Representative of Entire upland community on North Bank of River 1 Bar | Thalweg 2 - Poker Bar

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Riparian Wetland | Plot ID: 3

Project/Site: Trinity River Bridges - Poker Bar
Applicant/Owner: US Bureau of Reclamation
Investigator: A. Pitts, P. Kirk

Date: ~~June~~ 7/23 2002
County: Trinity
State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain:

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rhombifolia		T	FACW
2. Salix exigua		T	OBL
3. Salix lasiolepis		T	FACW
4. Rubus discolor		S	FACW*
5. Holcus lanatus		H	FAC
6. Equisetum arvense		H	FAC
7. Juncus effusus		H	OBL
8. Scirpus microcarpus		H	OBL
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 100%

Remarks: Sufficient wetland vegetation
FAC neutral is 6/6 = Pass

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other
- No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: 3" (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
X saturated in upper 12"	X water-stained leaves
water marks	local soil survey data
X drift lines	X FAC-neutral test
sediment deposits	other (explain in remarks)
X drainage patterns in wetlands	

Remarks: Sufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217 - Xerofluvents - Riverwash Complex, 0-5% slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components.

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-8"	—	10YR 3/2	—	—	Gravelly loam

Hydric Soil Indicators:
- Histosol —
- Histic Epipedon —
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- — Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other

Remarks: Sufficient hydric Soils Indicators.

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or N

Remarks: Riparian Wetland

Photo 3
Poker Bar

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland | Plot ID: 4

Project/Site: Trinity River Bridges - Poker Bar | Date: ~~June~~ 7/23 2002
Applicant/Owner: US Bureau of Reclamation | County: Trinity
Investigator: A. Pitts, P. Kirk | State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: _____

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Plantago lanceolata		H	FAC-
2. Trifolium hirtum		H	UPL
3. Centaurea solstitialis		H	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 0/3 = 0%

Remarks: Insufficient wetland veg Indicators
FAC-Neutral = 0/2 = Fail

HYDROLOGY

Recorded Data (Describe in Remarks)
- steam, lake, or tide gauge
- X aerial photographs
- other
- No Recorded data available

Field Observation:
- Depth of Surface Water: None (in.)
- Depth of Free Water in Pit: None (in.)
- Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
inundated	oxidized root channels in upper 12"
saturated in upper 12 "	water-stained leaves
water marks	local soil survey data
drift lines	FAC-neutral test
sediment deposits	other (explain in remarks)
drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): 217 - Xerofluvents Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"	-	10YR 3/2	-	-	Sandy, gravelly loam

Hydric Soil Indicators:
- Histosol
- Histic Epipedon
- Sulfidic odor
- Aquic moisture regime
- Reducing conditions
- X Gleyed or low-chroma colors
- Positive alpha-alpha dipyridyl test
- Concretions
- High organic content in surface layer in sandy soil
- Organic streaking in sandy soils
- X Listed on local hydric soils list
- Listed on national hydric soils list
- Other _____

Remarks: Sufficient hydric Soils Indicators

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Upland Pair to 3

Photo 4
Poker Bar

DATA FORM: ROUTINE WETLAND DETERMINATION

Comm. ID: Riparian wetland Plot ID: 1

Project/Site: Treadwell
Applicant/Owner: BOR
Investigator: A. Pitts, C. Boggs

Date: July 18 2002
County: Trinity
State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y or (N)

Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Alnus rhombifolia	—	T	FACW
2. Salix lasiolepis	—	S	FACW
3. Salix origua	—	S	OBL
4. Rubus discolor	—	S	FACW
5. Vitis californica	—	S	FACW
6. Carex nudata	—	H	FACW
7. Holcus lanatus	—	H	FAC
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 100%

Remarks: Sufficient hydrophytic vegetation.
FAC-Neutral: 6/7

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
[ ] inundated	[ ] oxidized root channels in upper 12"
[ ] saturated in upper 12 "	[ ] water-stained leaves
[ ] water marks	[ ] local soil survey data
[x] drift lines	[x] FAC-neutral test
[ ] sediment deposits	[ ] other (explain in remarks)
[x] drainage patterns in wetlands	

Remarks: Sufficient wetland hydrology Indicators

SOILS

Map Unit Name (Series and Phase): Xerofluvents-Riverwash Complex, 0-5% Slopes
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components.

Drainage Class: well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
9-8"		10YR 3/2	—	—	gravelly sand

Remarks: Sufficient hydric soils indicators

Hydric Soil Indicators:
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic odor
- [ ] Aquic moisture regime
- [ ] Reducing conditions
- [x] Gleyed or low-chroma colors
- [ ] Positive alpha-alpha dipyridyl test
- [ ] Concretions
- [ ] High organic content in surface layer in sandy soil
- [ ] Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- [ ] Listed on national hydric soils list
- [ ] Other

WETLAND DETERMINATION

Hydrophytic vegetation present? (Y) or N Wetland Hydrology Present? (Y) or N Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or N

Remarks: Photo 1 Treadwell Site / Riparian wetland Representative of this site

DATA FORM: ROUTINE WETLAND DETERMINATION | Comm. ID: Upland pair to 1 | Plot ID: 2

Project/Site: Trinity River Bridges - Treadwell
Applicant/Owner: U.S. Bureau of Reclamation
Investigator: ~~J. Colescott~~ A. Pitts, C. Boggs

Date: July 18, 2002
County: ~~Shasta~~ Trinity
State: California

Do normal circumstances exist on the site? (Y) or N
Is the site significantly disturbed (atypical situation)? Y or (N)
Is the area a potential problem area. Y o(N)

Explain: —

VEGETATION

Dominant Plant Species	Cover	Stratum	Indicator
1. Pinus ponderosa	—	T	FACU
2. Pseudotsuga menziesii	—	T	UPL
3. Arbutus menziesii	—	T	UPL
4. Quercus wislizenii	—	S	UPL
5. Hypericum perforatum	—	H	UPL
6. Cynosurus echinatus	—	H	UPL
7.			
8.			
9.			
10.			

Percent of dominant species that are OBL, FACW or FAC 0%

Remarks: Insufficient hydrophytic veg.
FAC-Neutral: 0/0

HYDROLOGY

- [x] Recorded Data (Describe in Remarks)
  - [ ] steam, lake, or tide gauge
  - [x] aerial photographs
  - [ ] other
- [ ] No Recorded data available

Field Observation:
Depth of Surface Water: None (in.)
Depth of Free Water in Pit: None (in.)
Depth of Saturated Soil: None (in.)

Wetland Hydrology Indicators

Primary Indicators	Secondary Indicators
[ ] inundated	[ ] oxidized root channels in upper 12"
[ ] saturated in upper 12 "	[ ] water-stained leaves
[ ] water marks	[x] local soil survey data
[ ] drift lines	[ ] FAC-neutral test
[ ] sediment deposits	[ ] other (explain in remarks)
[ ] drainage patterns in wetlands	

Remarks: Insufficient wetland hydrology.

SOILS

Map Unit Name (Series and Phase): Xerofluvents-Riverwash Complex, 0-5% Slp
Taxonomy (Subgroup): Xerofluvents
Hydric Status on SCS Field Office List: Hydric Components

Drainage Class: Well
Field Observations Confirm Mapped Type? (Y) or N

Depth	Horizon	Matrix Color	Mottle Colors	Mottle Abundance/contrast	Texture, Concretions, Structure, Etc.
0-12"	—	10.5YR 4/3	—	—	sandy, loam

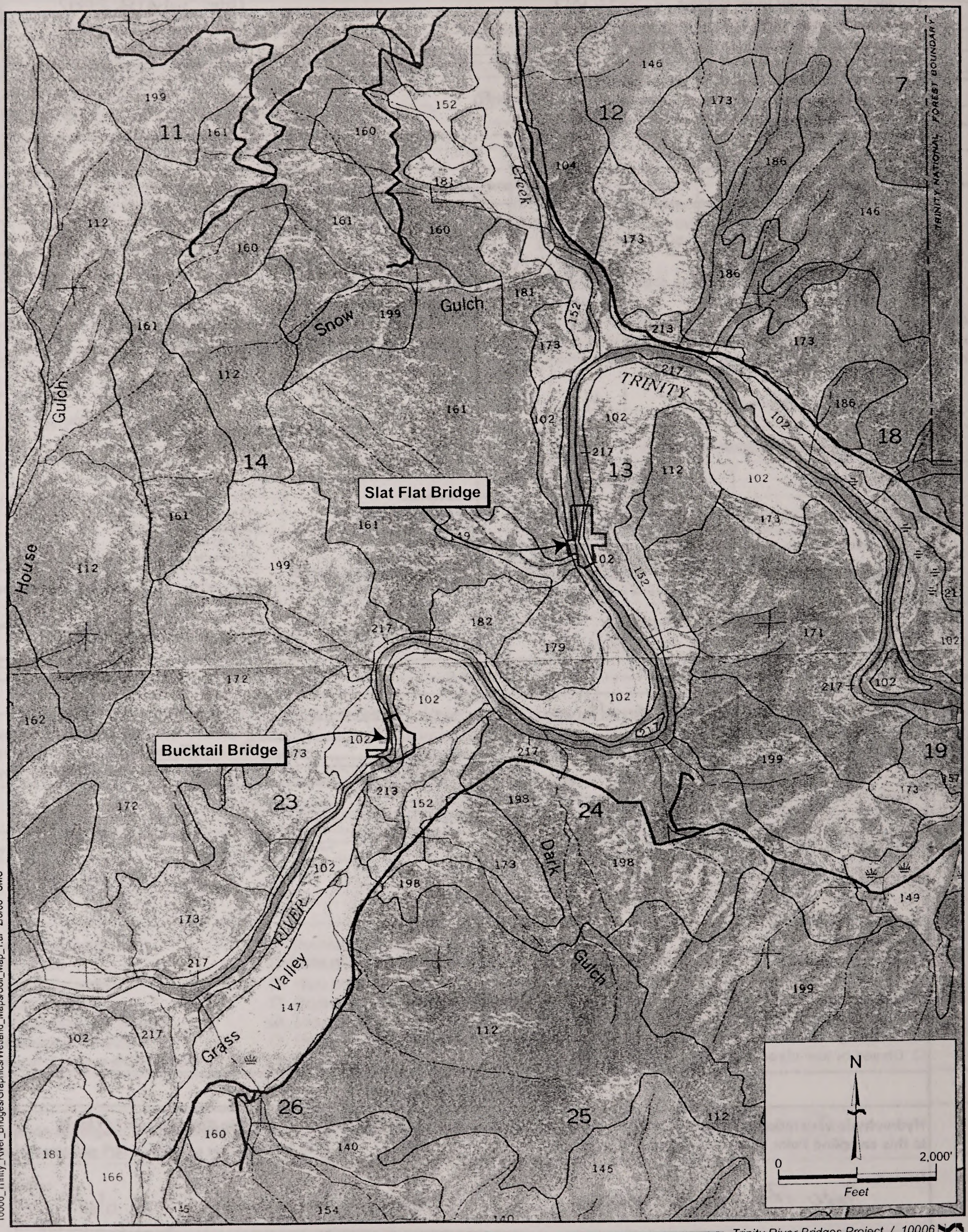
Remarks: Sufficient hydric soil indicators.

Hydric Soil Indicators:
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic odor
- [ ] Aquic moisture regime
- [ ] Reducing conditions
- [ ] Gleyed or low-chroma colors
- [ ] Positive alpha-alpha dipyridyl test
- [ ] Concretions
- [ ] High organic content in surface layer in sandy soil
- [ ] Organic streaking in sandy soils
- [x] Listed on local hydric soils list
- [ ] Listed on national hydric soils list
- [ ] Other _____

WETLAND DETERMINATION

Hydrophytic vegetation present? Y or (N) Wetland Hydrology Present? Y or (N) Hydric Soils Present? (Y) or N
Is this sampling Point within a wetland? Y or (N)

Remarks: Photo 2



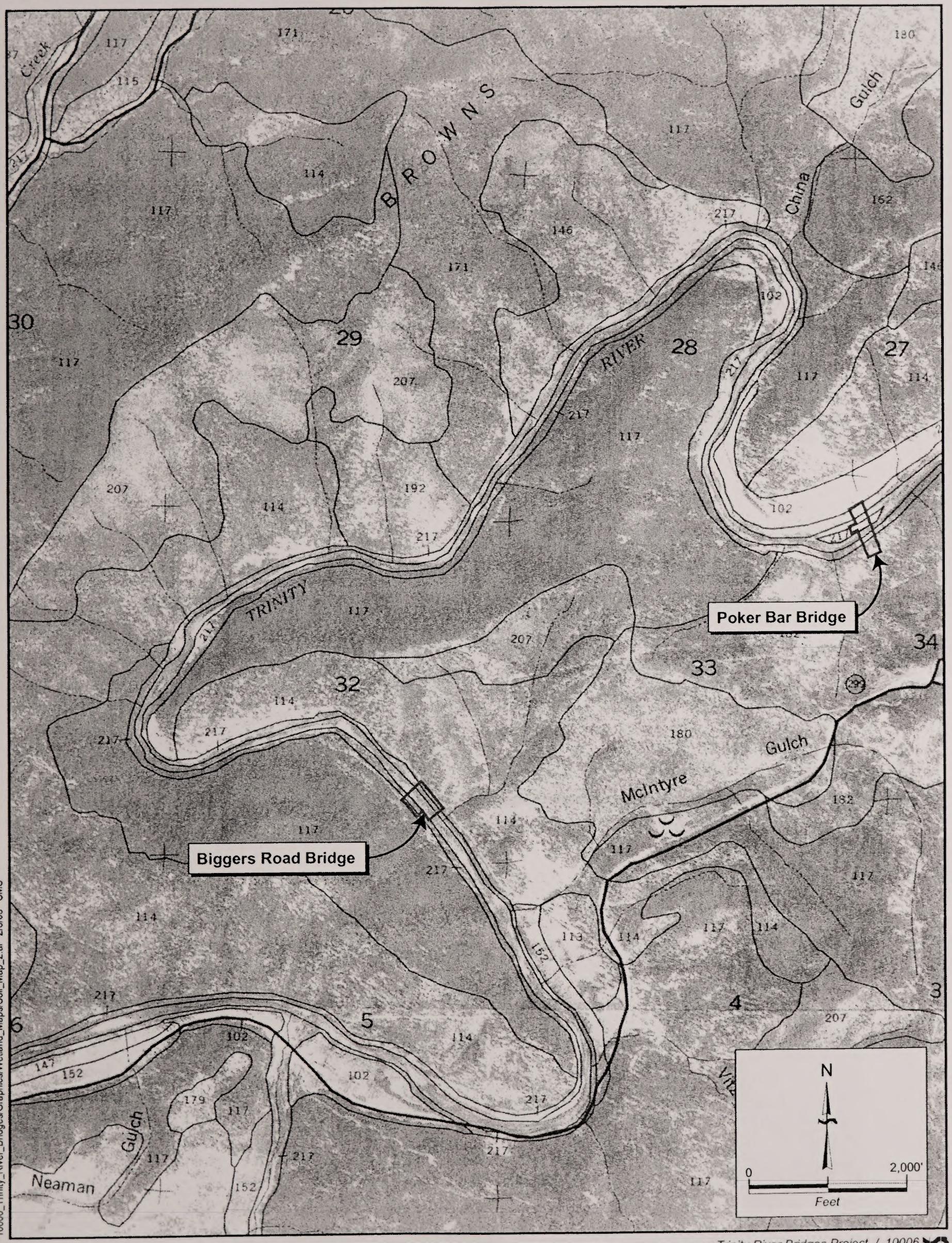
10006_Trinity_River_Bridges/Graphics/Wetland_Maps/Soil_Map_1.ai 2/3/03 CMS

Trinity River Bridges Project / 10006

Source: U.S. Department of Agriculture
Soil Survey of Trinity County, California

Soil Map Units

(Salt Flat Bridge and Bucktail Bridge)



10006_Trinity_River_Bridges/Graphics/Wetland_Maps/Soil_Map_2.ai 2/3/03 CMS

Source: U.S. Department of Agriculture
Soil Survey of Trinity County, California

Soil Map Units

(Poker Bar Bridge and Biggers Road Bridge)

APPENDIX B

Site Photographs

Salt Flat Site:

Photo 1
Data Point 1: Riparian Wetland

Photo 2
Data Points 1 & 2: Riparian Wetland & Upland Pair

Photo 3
Data Point 3: Seasonal Wet Meadow

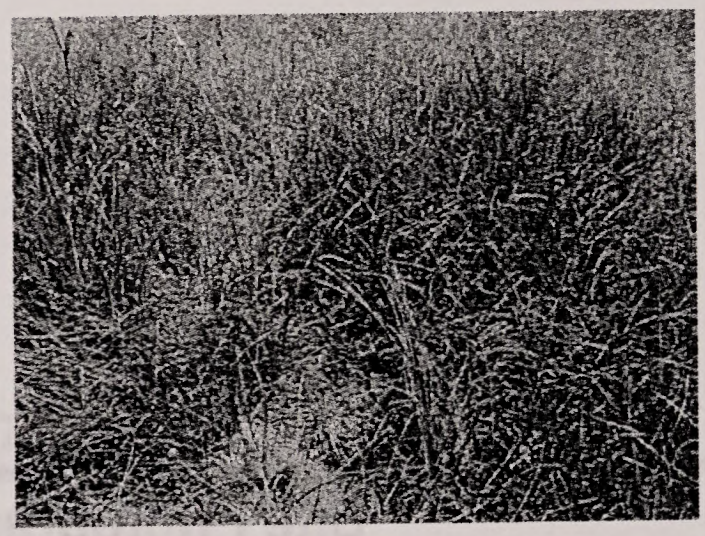


Photo 4
Data Point 4: Upland Pair to Data Point 3

Photo 5
Data Point 5: Riparian Wetland

Photo 6
Data Point 6: Upland Pair to Data Point 5

Salt Flat Site Cont.:

Photo 7

Data Point 7: Seasonal Wet Meadow

Photo 8

Data Point 8: Upland pair to Data Point 7

Bucktail Site:

Photo 1
Data Point 1: Riparian Wetland

Photo 2
Data Point 2: Upland Pair to Data Point 1

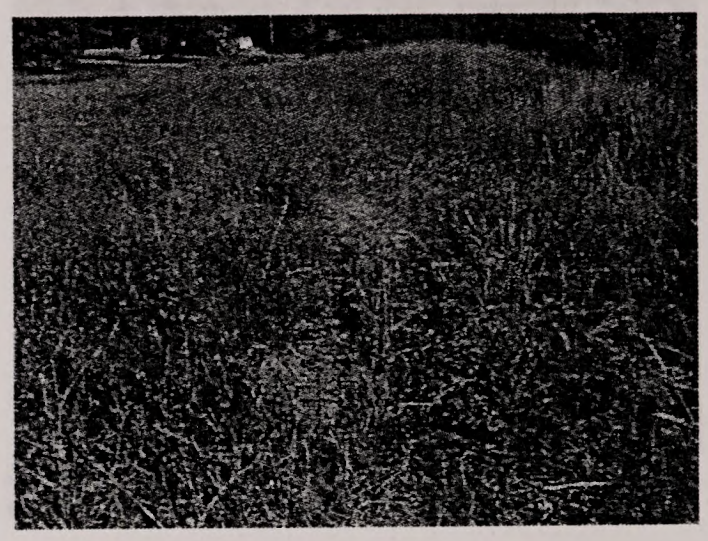
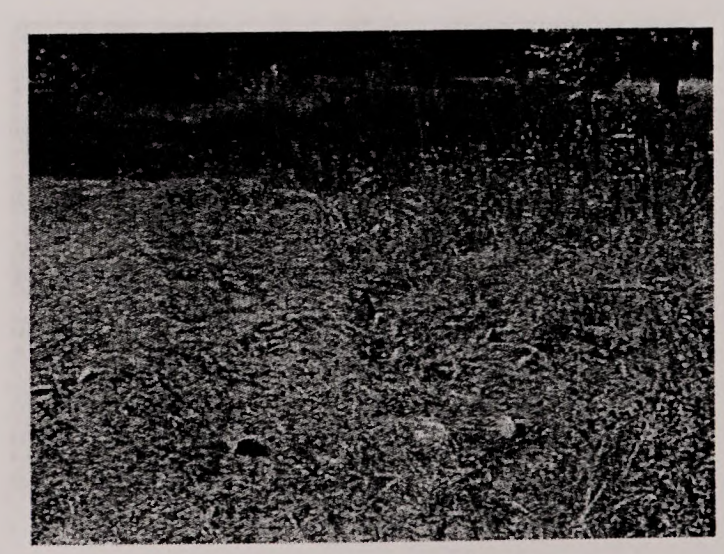


Photo 3
Data Point 3: Riparian Wetland

Photo 4
Data Point 4: Upland Pair to Data Point 3

Photo 5
Data Point 5: Riparian Wet Meadow

Photo 6
Data Point 6: Upland Pair to Data Point 5



Bucktail Site Cont.:

Photo 7
Data Point 7: Seasonal Wet Meadow

Photo 8
Data Point 8: Upland pair to Data Point 7

Photo 9
Data Point 9: Fresh Emergent Wetland

Photo 10
Data Point 10: Upland Pair to Data Point 9

Poker Bar Site:

Photo 1
Data Point 1: Riparian Wetland

Photo 2
Data Points 1 & 2: Riparian Wetland & Upland Pair

Photo 3
Data Point 3: Riparian Wetland

Photo 4
Data Point 4: Upland Pair to Data Point 3

Photo 5
Typical Riparian Wetland/Upland boundary

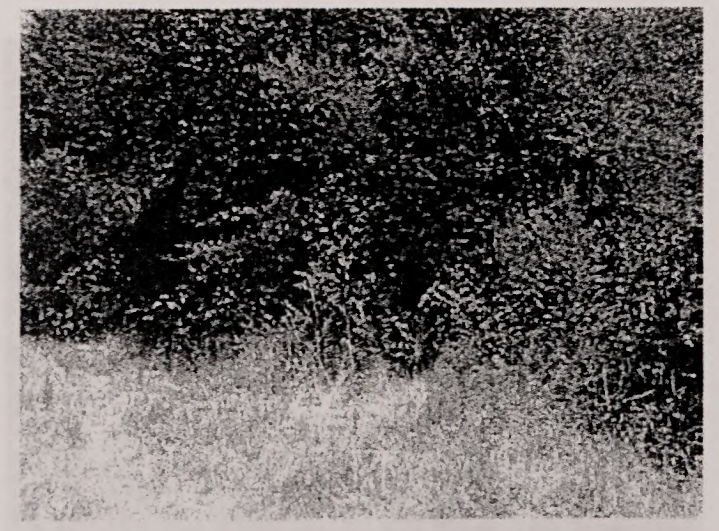


Photo 6
Typical Riparian Wetland/Riverine Boundary

Biggers Road Site:

Photo 1
Data Point 1: Riparian Wetland

Photo 2
Data Point 2: Upland Pair to Data Point 1

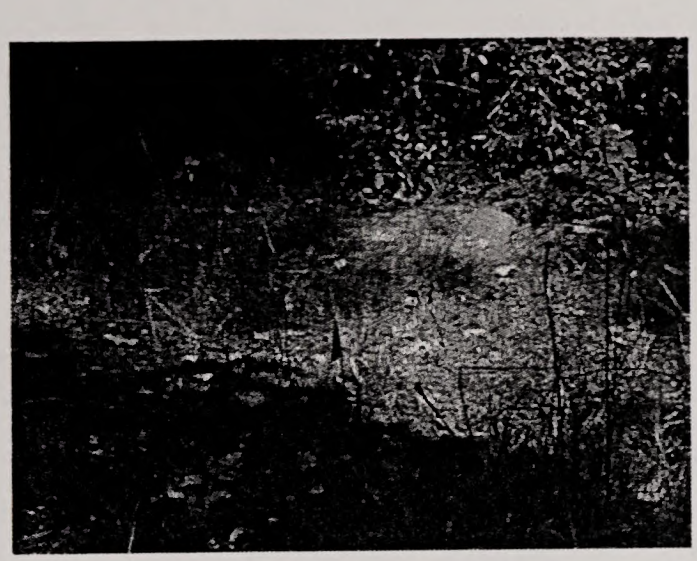


Photo 3
Typical Riparian Wetland/Riverine Boundary

SUPPLEMENT TO APPENDIX N

Trinity River Bridges
Northern Spotted Owl Survey Results

July 22, 2002

Mr. Ray Bosch
U.S. Fish and Wildlife – Arcata Office
1655 Heindon Road
Arcata, CA 95521

RE: 2002 Northern Spotted Owl Survey Results for the Trinity River Bridge Replacement Project (NSR #10006).

Dear Mr. Bosch:

This letter provides formal notification of a negative finding from the northern spotted owl (*Strix occidentalis courina*; NOSPO) survey conducted within suitable habitat surrounding the Trinity River Bridge Replacement Project sites. As I have discussed with you on the phone and in an email dated May 24, 2002 (copy attached), the Bureau of Reclamation, the Bureau of Land Management, and Trinity County are proposing to replace 4 bridges over the Trinity River. Work will be conducted within the areas immediately surrounding each of the bridges, with an additional work area surrounding a borrow site at the mouth of Rush Creek. Study areas for each bridge site and the borrow site have been defined, but the precise construction methodology that will be used is still under development. North State Resources (NSR) has been awarded the contract to write the EA/EIR documents for the project, and as part of the environmental review we initiated this 6-visit protocol-level survey for NOSPO in suitable habitat occurring within ¼ mile of any related construction area. The purpose of this survey was to: 1. assess habitat suitability for NOSPO within the ¼ mile radius study areas and 2. to identify whether the suitable habitat was currently occupied.

Habitat suitability is defined in the Federal Register (January 15, 1992) as habitat suitable for nesting, roosting, foraging and dispersing. In general, suitable nesting, roosting and foraging habitat is considered to contain mature conifer forests with large snags and trees, and large horizontal limbs for perching. Using this definition, none of the conifer habitat found in the vicinity of the bridge replacement project sites are suitable for nesting, roosting or foraging. However, it is possible that a NOSPO would utilize the young mixed conifer forests for dispersal. Suitable NOSPO dispersal habitat occurs on the southwest side of the Treadwell bridge (T. 32N, R. 9W, Sec. 32), the west side of the Poker Bar bridge (T. 32N, R. 9W, Sec. 33), a small area on the west side of the Salt Flat bridge (T. 32N, R. 9W., Sec. 13), and a small conifer stand on the south side of the Rush Creek borrow site (T. 32N, R 9W., Sec. 13).

The survey was done according to the *Protocol for Surveying for Spotted Owls in Proposed Management Activity Areas and Habitat Conservation Areas* (March 12, 1991, Revised February 1993). Two NOSPO calling stations were established around each bridge site listed above, and due to limited suitable habitat, only one calling station was established at the Rush Creek Borrow Site (Figures 1 and 2). Each calling station was visited 6 times on the following dates: May 15, May 23, June 6, June 17, June 25, and July 10, 2002.

Although no formal consultation is currently underway for this project, you suggested NSR conduct this 6-visit survey to get a good understanding of the current conditions regarding NOSPO in the project area. Once final construction plans have been made, we will be able to discuss the adequacy of the ¼ mile study limit and the need for additional surveys.

If you have any questions or comments, please call me at (530) 926-3595.

Sincerely,
North State Resources, Inc.

Julian Colescott
Wildlife Biologist/Environmental Analyst

c: James DeStaso
Ed Solbos
Tom Stokley
Brandt Gutermuth

Enclosures:

- May 24, 2002 email establishing a record of conversation for the Trinity River Bridge Replacement Project.
- Field Map of Call Point Locations
- Datasheets.
- CNDDB Map of Special-Status Animals

From: Julian Colescott [colescott@nsrnet.com]
Sent: Friday, May 24, 2002 4:57 PM
To: Ray_Bosch@fws.gov
Cc: Towers@nsrnet.com; Uncapher@nsrnet.com
Subject: Trinity River Bridges Project -- NOSPO Surveys

Ray.

When I spoke with you on the phone on May 9, 2002 regarding Northern spotted owl (NOSPO) surveys in the impact area surrounding the Trinity River Bridges project, you asked me to look over the project sites to determine if suitable habitat exists and report back to you. This email is to make that report and establish a record of communication regarding the survey.

The Trinity River Bridges project proposes to replace 4 one-lane bridges crossing the Trinity River to accommodate higher flows proposed for release to enhance salmonid habitat in the Trinity River. Environmental work to support the EIR/EIS document is getting underway this summer. This work involves the technical studies (wetland delineation, wildlife surveys, botanical inventory) needed ultimately to support issuance of regulatory permits for construction of the project. One protocol level survey being conducted this summer is for the NOSPO.

During our May 9 phone conversation, we discussed the radius within which NOSPO surveys should be conducted. As the project is still being developed, and the exact construction methods are not known yet, we agreed that a one-quarter mile radius survey area around the expected construction area would be sufficient, and that a six-visit survey should be done this year with three-visit surveys done prior to construction. If we learn that blasting or pile driving (including cofer dams) will be done as part of the project, the pre-construction survey radius would be enlarged to 1 mile from the impact area, or to the top of the nearest ridge.

Work to Date: The habitat assessment conducted at each bridge-replacement site and two barrow sites found suitable habitat (40% or greater conifer cover) in the following locations:

Treadwell bridge (T. 32N, R. 9W, Sec. 32);
Poker Bar bridge (T. 32N, R. 9W, Secs. 33, 34);
Salt Flat bridge (T. 32N, R. 9W, Sec. 13); and
Rush Creek barrow site (T. 32N, R 9W, Sec. 13).

Habitat was deemed unsuitable at the following locations:

Hamilton Ponds barrow site (T. 32N, R. 9W, Sec. 26); and
Bucktail bridge (T. 32N, R. 9W, Sec. 23).

Based on this information, protocol level surveys were initiated within the suitable habitat on May 15, 2002, with a second visit done on May 22, 2002. The remaining 4 visits will be done in June (3 visits) and July (1 visit). The suitable habitat is quite marginal due to homesites and small diameter forest stands. Due to the low elevation of the sites, suitable habitat really only exists on north aspect slopes, and for this reason, it only occurs in portions of the quarter-mile radius surrounding each bridge sites deemed suitable. Two call points were established at each suitable area to thoroughly survey each location .

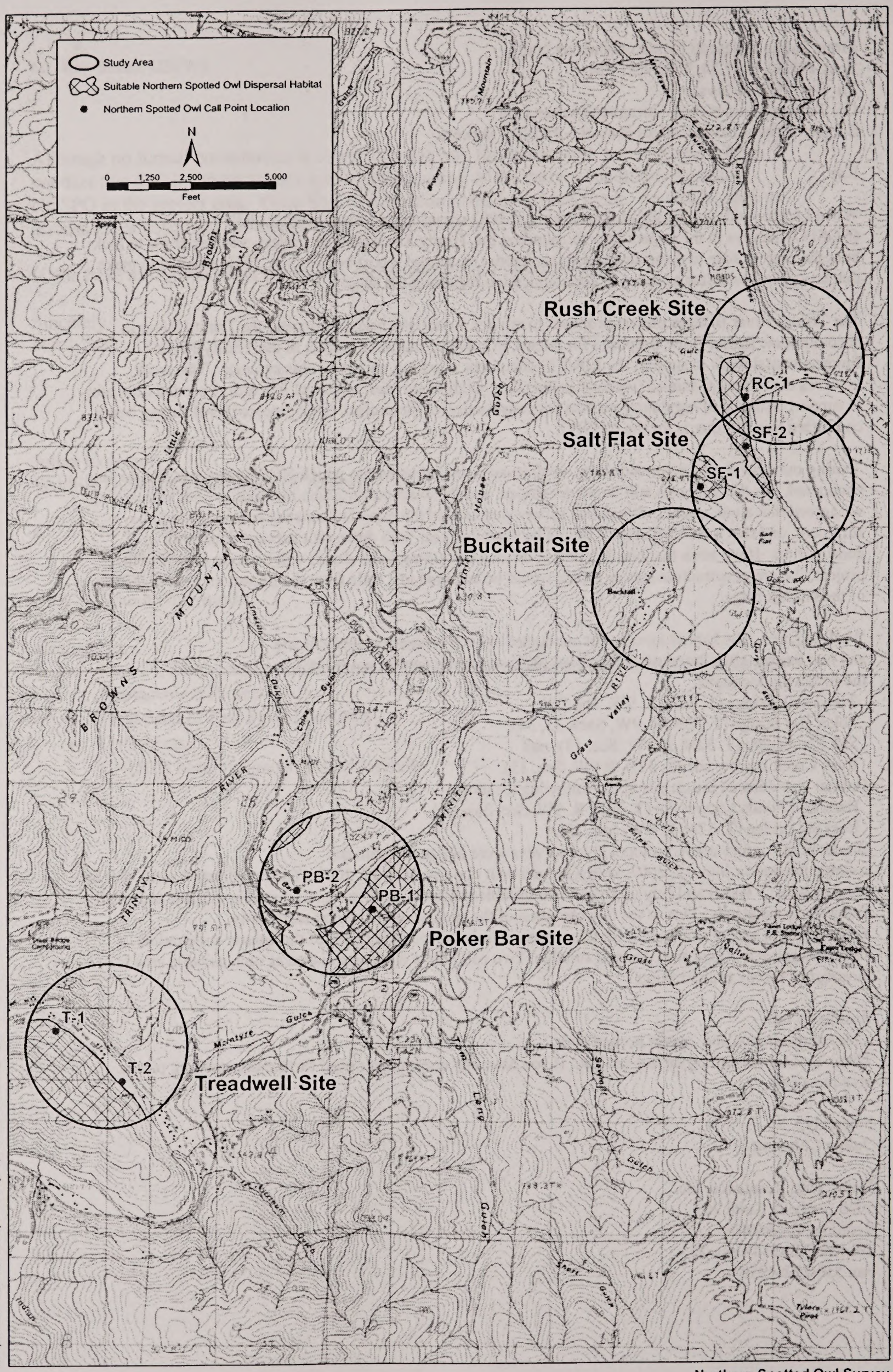
Results so far:

2 western screech and 2 great horned owls.

Thank you for consulting on this project. If you have any questions or need further information, please give me a call.

Sincerely,
Julian Colescott

North State Resources, Inc.
5000 Bechelli, Suite 203
Redding, CA 96002
Tel 530-222-5347 ext. 23
Fax 530-222-4958



North State Resources, Inc.

Northern Spotted Owl Survey
Trinity River Bridges Project
Nov. 14, 2002

Trinity Bridges Location Information
November 22, 2002

The following information on the location of the bridges, call points and wildlife observations is based on auditory observations during the northern spotted owl (NOSPO) surveys conducted as part of the Trinity River Bridges Replacement Project.

Dates of observations: May 15, May 23, June 6, June 17, June 25, July 10, 2000.
Observer: Julian Colescott (North State Resources Wildlife Biologist).
Coordinate system: NAD 83, UTM, Zone 10 North

Feature or Species of Location	Date of observation	UTM Easting	UTM Northing	Comments
Treadwell Bridge	n/a	10T 507909	4501849	
Call Point (CP) T-1	n/a	10T 507449	4501984	
CP T-2	n/a	10T 508051	4501535	
Poker Bar Bridge	n/a	10T 510002	4503228	
CP PB-1	n/a	10T 510292	4503081	
CP PB-2	n/a	10T 509607	4503246	
Salt Flat	n/a	10T 513849	4506885	
CP SF-1	n/a	10T 513198	4506856	
CP SF-2	n/a	10T 513605	4507218	
Rush Creek	n/a			See note 1 below.
CP RC-1	n/a	10T 513599	4507657	
Western screech owl	May 15, 2002	10T 507449	4501984	Vocalization heard from CP T-1.
Great horned owl (GHO)	May 15, 2002	10T 513151	4506860	GHO call heard in the last minute of the 10 minute NOSPO survey from CP SF 1.
GHO	May 23, 2002	10T 513599	4507657	Heard from CP RC 1, but it sounded like the call came from across the Trinity river.
Western screech owl	May 23, 2002	10T 513151	4506860	Heard from CP SF-1.
Western screech owl	June 6, 2002	10T 507449	4501984	Heard from CP T-1.
Western screech owl	June 6, 2002	10T 513605	4507218	Heard from CP SF-2.
Northern Mockingbird	June 17, 2002	10T 508051	4501535	Heard from CP T-2.
Western screech owl	June 25, 2002	10T 508051	4501535	Heard from CP T-2.
Western screech owl	June 25, 2002	10T 513151	4506860	Heard from CP SF-1.
Yellow-breasted chat	June 25, 2002	10T 513605	4507218	Heard from CP SF-2.
Northern mockingbird	June 25, 2002	10T 513599	4507657	Heard from CP RC-1.
Western screech owl	July 10, 2002	10T 513151	4506860	Heard from CP SF-1.

Notes:
1. At the time of the NOSPO survey, the proposal involved utilizing the Rush Creek area as a borrow site. That has since changed, and it is no longer part of the Trinity River bridges replacement project. The UTM coordinates are included here because they may provide useful data for the Trinity River wildlife database currently being assembled by Bob Sullivan.

2. Also note that since none of the species listed in the table above were target species of the survey, no precise location information is available. The UTM coordinates designate the point were the observer was standing when the vocalization was heard.

Salt Flat Bridge

Bucktail Bridge

Poker Bar Bridges

Biggers Road Bridge

Legend

- Bridge Site
- Bald Eagles
- Bottlebrush Sedge
- Dudley's Rush
- Northern Spotted Owl
- Pacific Fisher

N

0 0.8 miles

Miles

North State Resources, Inc.

Trinity River Bridges Project

Enclosure
California Natural Diversity Database (CNDDB) Occurrences

10006 - Trinity River Bridge Replacement\Graphics\Fig_3.7-2.ai 2/25/03 CMS

Form 1279–3
(June 1984)

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Trinity River Bridges Project

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